

# भारत का राजपत्र The Gazette of India

प्राधिकार से प्रकाशित  
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No. 33] NEW DELHI, SATURDAY, AUGUST 15, 1992 (SRAVANA 24, 1914)

इस भाग में भिन्न पृष्ठ संख्या दी जाती है जिससे कि यह अलग संकलन के रूप में रखा जा सके  
[Separate paging is given to this Part in order that it may be filed as a separate compilation]

## भाग III—खण्ड 2 [PART III—SECTION 2]

पेटेंट कार्यालय द्वारा जारी की गई पेटेंटों और डिजाइनों से सम्बन्धित अधिसूचनाएं और नोटिस  
[Notifications and Notices Issued by the Patent Office relating to Patents and Designs]

### THE PATENT OFFICE PATENTS AND DESIGNS

Calcutta, the 15th August 1992

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Patent Office Branch, Unit No. 401 to 405, III Floor, Municipal Market Building, Saraswati Marg, Karol Bagh, New Delhi-110 005.

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Telegraphic address "PATENTOFIS".

Patent Office, (Head Office), "NIZAM PALACE", 2nd M. S. O. Building, 5th, 6th and 7th Floor, 234/4, Acharya Jagadish Bose Road, Calcutta-700 020.

Rest of India.

Telegraphic address "PATENTS".

All applications, notices, statements or other documents or any fees required by the Patents Act, 1970 or the Patents Rules, 1972 will be received only at the appropriate Offices of the Patent Office.

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## पेटेंट कार्यालय

## एकत्र तथा अभिकल्प

कलकत्ता, दिनांक 15 अगस्त 1992

## पेटेंट कार्यालय के कार्यालयों के पते एवं क्षेत्राधिकार

पेटेंट कार्यालय का प्रधान कार्यालय कलकत्ते में अवस्थित है तथा बम्बई, दिल्ली एवं मद्रास में इसके शाखा कार्यालय हैं, जिनके प्रादेशिक क्षेत्राधिकार जोन के आधार पर निम्न रूप में प्रवर्तित हैं :—

पेटेंट कार्यालय शाखा,  
टोडी इस्टेट,  
तीसरा तल, लोअर परले (पश्चिम),  
बम्बई-400013 ।

गुजरात, महाराष्ट्र तथा मध्य प्रदेश राज्य  
क्षेत्र एवं संघ शासित क्षेत्र गोआ, दमन तथा  
दिव एवं दादरा और नगर हवेली ।

तार पता—“पेटेंटॉफिस”

पेटेंट कार्यालय शाखा,  
एकक सं. 401 से 405, तीसरा तल,  
नगरपालिका बाजार भवन,  
सरस्वती मार्ग, करोल बाग,  
गडि दिल्ली-110005 ।

हरियाणा, हिमाचल प्रदेश, जम्मू तथा कश्मीर,  
पंजाब, राजस्थान तथा उत्तर प्रदेश राज्य क्षेत्रों  
एवं संघ शासित क्षेत्र चंडीगढ़ तथा दिल्ली ।

तार पता—“पेटेंटॉफिक”

पेटेंट कार्यालय शाखा,  
61, बालासाह रोड,  
मद्रास-600 002 ।

आंध्र प्रदेश, कर्नाटक, केरल, तमिलनाडु राज्य  
क्षेत्र एवं संघ शासित क्षेत्र पाण्डिचेरी, लक्षद्वीप  
भिनिकाय तथा अमिनिविदि द्वीप

तार पता—“पेटेंटॉफिस”

पेटेंट कार्यालय (प्रधान कार्यालय)  
निजाम पैलेस, द्वितीय बहुतलीय कार्यालय,  
भवन, 5, 6 तथा 7वां तल,  
234/4, आचार्य जगदीश बोस रोड,  
कलकत्ता-700020 ।

भारत का अवशेष क्षेत्र ।

तार पता—“पेटेंट्स”

पेटेंट अधिनियम, 1970 या पेटेंट नियम, 1972 में अपेक्षित सभी आवेदन पत्र, सूचनाएं, विवरण या अन्य प्रलेख पेटेंट कार्यालय के केबल उपर्युक्त कार्यालय में ही प्राप्त किए जाएंगे ।

शर्क :—शर्कों की अदायगी या तो नकद की जाएगी अथवा उपर्युक्त कार्यालय में नियंत्रक को भुगतान योग्य भुगतान अथवा शर्क आदेश या जहाँ उपर्युक्त कार्यालय अवस्थित है; उस स्थान के अनुसूचित बैंक से नियंत्रक को भुगतान योग्य बैंक ड्रूप्ट अथवा बैंक द्वारा की जा सकती है ।

## CORRIGENDUM

In the Gazette of India, Part III, Section 2, dated the 24th September, 1988 in page 986 Col. 2 for application for Patent No. 314/Cal/85 filed April 25, 1985 read its accepted No. as 163455.

In the Gazette of India, Part III, Section 2, dated the 1st October, 1988 :—

(a) In page 1020, Col. 2 for application for Patent No. 797/Cal/85 filed November 7 1985 read its accepted No. as 163489.

(b) In page 1022, Col. 1 for application for Patent No. 194/Bom/85 filed on 24th July, 1985 read its accepted No. as 163495.

In the Gazette of India, Part III, Section 2 dated the 8th October, 1988 :—

(a) In page 1058, Col. 2 read the name of the Applicant as AMERICAN CYANAMID COMPANY for AMERICAN CYNANMI COMPANY in respect of application for Patent No. 752/Cal/84 filed October 26, 1984 (163527).

(b) In page 1059, Col. 2 for accepted complete Specn. No. 163530, delete from line 3 of 2-5, KASUMIGASKEKI, 3-CHOME, CHIYODA-KU, TOKYO, JAPAN and after the title of the invention read applicants Mitsui Toatsui Chemicals, Incorporated of 2-5 KASUMIGASKEK, 3-CHOME, CHIYODA-KU, TOKYO, JAPAN.

(c) In page 1067, Col. 2 for application for Patent No. 487/Del/85 filed on 19th June, 1985 read its accepted No. as 16356 in place of the printed vagne accepted No.

In the gazette of India, Part III, Section 2 dated the 29th February, 1988, page 1151, Col. 2 for application for Patent No. 613/Del/85 read its filing date as 31st July, 1985 instead of 31st July, 1986 and read the accepted complete Specification No. of the instant application as 163713.

In the Gazette of India, Part III, Section 2 dated the 10th December, 1988 :—

(a) In page 1282 Col. 1 for complete specification accepted No. 163923 read the name of the Applicant as LINDE AKTIENGESSELLSCHAFT instead of LNDE AKTIENGESSELLSCHAFT.

(b) In page 1285, Col. 2 for complete specification accepted No. 163930 read the name of the applicant as MITSUBOSH BELTING LTD etc. instead of MITUBOSHI BELTING LTD etc.

## GOVERNMENT OF INDIA

## THE PATENT OFFICE

Calcutta, the 15th August 1992

APPLICATION FOR PATENTS FILED AT THE HEAD  
OFFICE 234/4, ACHARY JAGADISH BOSE ROAD,  
CALCUTTA-20

The date shown in the crescent brackets are the dates claimed under section 135, of the patents Act, 1970.

26th June 1992

458/Cal/92 Loudon Enterprises, Inc. Rock Drill Bit and  
method of making same.

29th June 1992

459/Cal/92 E. I. Du Pont De Nemours and Company. An improved process for flash-spinning polymeric plexifilamentary film-fibril Strands. [Divided out of No. 713/Cal/89, antedated to 31-8-89].

460/Cal/92 : ELF Atochem North America, Inc. Process for preparing color-stable tertiary Butyldiethanolamine.

461/Cal/92 : Hat Entwicklungsgesellschaft m.b.H., A Component of plastics with a base body with the receiving arrangement for a display device.

462/Cal/92 : Euroceltique, S. A., stabilized, controlled Release formulations having acrylic polymer coating.

30th June 1992

463/Cal/92 : Stone & Webster Engineering Corporation. A Process and apparatus for separating fluidized cracking catalysts from Hydrocarbon vapor.

464/Cal/92 : Instytut Ciekkiej Syntezy Organicznej "Blachownia". Method to manufacture ethylene glycol methyl ethers.

465/Cal/92 : Instytut Ciekkiej Syntezy Organicznej "Blachownia". Method to manufacture ethylene glycol ethyl ethers.

1st July 1992

466/Cal/92 : E. I. Du Pont De Nemours and Company. Azeotropic or Azeotrope-like composition of Pentafluoroethane and Propane or Isobutane.

467/Cal/92 : EMS-Inventa AG. Process and apparatus for the direct continuous modification of polymer melts.

2nd July 1992

468/Cal/92 : TAI-Her Yang, The cross coupling linking-up wheel train of nonharmonious unequal Ratio Complex number wheel trains and the device.

469/Cal/92 : Cebal SA., A Plastics tube head Provided with a lining having a barrier effect and a member which can be used for this lining.

470/Cal/92 : Stork Brabant B. V. Screen printing device with continuous registering of rotating stencils.

APPLICATIONS FOR PATENTS FILED IN THE  
PATENT OFFICE BRANCH, TODI ESTATES, IIIRD  
FLOOR, SUN MILL COMPOUND, LOWER PAREL(W),  
BOMBAY-13

4-5-1992

142/BOM/1992 Harmahendra Singh Bagga. Shiva System.

143/BOM/1992 Vikram Dinubhai Panchal. Socket for bulb holder.

6-5-1992

144/BOM/1992 Sailendra Rabindranath Baliga. A wardrobe which is foldable into a carrying case.

7-5-1992

145/BOM/1992 Suresh Makhija. A device being the part used in the video cassette recorders and players called in built video head cleaner.

11-5-1992

146/BOM/1992 Madhavan Balakrishnan. Efficient dentifrice constitution for regular effective utility.

147/BOM/1992 Madhavan Balakrishnan. Efficient electrical connection for spark plugs that are for effective use with oil engines.

148/BOM/1992 Hindustan Lever Ltd. U. K. Filed 17-5-91. Dentifrice Compositions.

149/BOM/1992 Hindustan Lever Ltd. Treatment of vegetable oils.

12-5-1992

150/BOM/1992 Jacob Devnesh. Self contained lock for computer floppy disk drives.

151/BOM/1992 Prabhakar Deodhar Liladhar Sannabhadhi. An improved access card.

13-5-1992

152/BOM/1992 Jayhar Dhanraj Bhutada. Automatic bearing lubricator.

153/BOM/1992 Vasant Pandurang Koparde and Narayan N. Desai. A valve for preventing backward flow of liquid.

14-5-1992

154/BOM/1992 Dr. Kantilal Pannalal Daga. Intramedullary nail used for Tibia (Leg Bone in Human Beings).

15-5-1992

155/BOM/1992 Gav Bomi Master. Retractable articulated rescue recovery vehicle.

156/BOM/1992 Gav Bomi Master. Multi application utilisation general application vehicle.

157/BOM/1992 Gav Bomi Master. Modified regional passenger transport bus.

158/BOM/1992 Gav Bomi Master. Guided integrated low profile double deck commuter urban bus.

159/BOM/1992 Gav Bomi Master. Guided elevated vertical side pillar duo track light transit.

18-5-1992

160/BOM/1992 Nitin Krishna Bhawe. Improved magnetic particle medium for detecting defects by durably fixing the indications on ferro magnetic materials.

161/BOM/1992 Nitin Krishna Bhawe. An equipment and process for automatically detecting the defects marking and durably fixing the said defect indication by means of magnetic particle on ferro magnetic materials.

162/BOM/1992 Abhay Ranade. An improved oil gun/burner as firing equipment employed in boilers/steam generating units at thermal power stations, steel plants and the like.

163/BOM/1992 Kedarnath Arun Chakradeo. Bagasse Drier.

164/BOM/1992 Anand Govind Bhole. Modified plate settler unit for removing flocs from flocculated water.

165/BOM/1992 Rashtriya Chemicals & Fertilizers Ltd. A process for producing ammonium polyphosphate in granular form and an apparatus therefor.

19-5-1992

166/BOM/1992 Kishor Uddav Joshi. Improved supercritical steam based power cycle.

167/BOM/1992 Hanamant Krishna Joshi & Mrs. Sumati Hanuman Joshi. Utilizing the natural colour and essence contained in the skin of oranges (particularly loose skinned oranges or santras) for the production of orange squash/Syrup/other orange products thus reducing eliminating the need for use of externally added edible colour and orange essence and increasing the yield on orange squash/other products, by extracting the colour and essence contained in the skin mixing the juice of the skin and normal orange juice and producing the orange products from the mixture of juices.

22-5-1992

- 168/BOM/1992 Crompton Greaves Ltd. A self-clamping canopy for a ceiling fan.
- 169/BOM/1992 Viswanath Dattatreya, Hukerikar & Rajendra M. Bajikar. Leak-proof rotary valves for liquids and gases.

27-5-1992

- 170/BOM/1992 Praj Counselftech Pvt. Ltd., Rhomboid grid trays for distillation column.
- 171/BOM/1992 Satyawrat Swamirao Ponkhe. Improved stowage/Bins/locker doors for aeroplane.
- 172/BOM/1992 Balubhai Haribhai Vasoya. An improved liquid fuel or electric/Betty stove.

29th May 1992

- 173/BOM/1992 Hindustan Organic Chemicals Ltd., An efficient process for the utilization of powdered catalyst in high pressure reactors.

APPLICATION FOR PATENTS FILED AT THE  
PATENT OFFICE BRANCH, 61, WALLAJAH  
ROAD, MADRAS-600 002

1st June 1992

- 328/MAS/92 P. P. Mohanan. A device to effect rotation of a drum using buoyant force in liquid mercury.
- 329/MAS/92 Sree Chitra Tirunal Institute for Medical Sciences & Technology. Improvement in or relating to prosthetic cardiac valve and to the method of manufacturing same.
- 330/MAS/92 Minknesota Mining and Manufacturing Company. Article for separations and purifications and method of controlling porosity therein.
- 331/MAS/92 Savio S. p. A. Method for pneumatic threading in a double hollow spindle of a twister.

2nd June 1992

- 332/MAS/92 Ramalingam Devakibjalan. Hot-line tele-fax network.
- 333/MAS/92 Alampallam Subramanian Vaidhyanathan. A steam cooking container adaptable to pressure cookers.

3rd June 1992

- 334/MAS/92 Mariplast S. p. A. Dyeing cone.
- 335/MAS/92 Shinagawa Refractories Co. Ltd. Method of producing silica brick.
- 336/MAS/92 Rockwell International Corporation. A piezo-electric actuator. (Divisional to Patent Application No. 519/MAS/89).
- 337/MAS/92 Rockwell International Corporation. An electric motor. (Divisional to Patent Application No. 519/MAS/89).

4th June 1992

- 338/MAS/92 Girivas Viswanath Shet. An art of imbibing self-discipline in the youth through the study of Buddhism (Principles of Buddha) through Bauddhic Treasures.
- 339/MAS/92 Girivas Viswanath Shet. A process for preparing a composition for preparing ayurvedic soup for increasing sexual vitality.

5th June 1992

- 340/MAS/92 FMC Europe SA. Pig-compatible thkree-way butterfly valve.
- 341/MAS/92 Galipag. An air filter arrangement.

8th June 1992

- 342/MAS/92 THE WELLCOME FOUNDATION LIMITED. A cap for a container and opening means therefor. (June 7, 1991 U.K.).
- 343/MAS/92 CATERPILLAR INC. Method of conditioning fluid in an electronically-controlled unit injector for starting.
- 344/MAS/92 STEVE FEHER. An apparatus for providing pressurized temperature modified air. (Divisional to Patent Application No. 722/MAS/88).

9th June 1992

- 345/MAS/92 SOUNDARARAJAN SENRAJ. COVER METER.
- 346/MAS/92 GIRIVAS VISWANATH SHET. A process for preparing an ayurvedic medicinal ships for sexual enjoyment of a more duration.
- 347/MAS/92 Pat Venkatesh Sonti. Moduiar hybrid electrical generating system.
- 348/MAS/92 INSTITUT FRANCAIS DU PETROLE. Exhaust line allowing a faster triggering of the catalyst.
- 349/MAS/92 PHILIP MORRIS PRODUCTS INC. Process for impregnation and expansion of tobacco.
- 350/MAS/92 Enichem Anic S. P. A. A process for the polymerization of ethylene and the copolymerization of ethylene with  $C_3-C_{10}$  alpha-olefins. (Divisional to Patent Application No. 651/MAS/89).

10 June 1992

- 351/MAS/92 ARUMUGAM VAITHIANATHAN. Improvement in or relating to Hydro electric pumped storage self power plant.
- 352/MAS/92 HIMONT INCORPORATED. Crystalline Olefin Polymers and Copolymers in the form of spherical particles at high porosity.

11th June 1992

- 353/MAS/92 CARBON IMPLANTS INC. Pyrolytic Deposition in a Fluidized bed.
- 354/MAS/92 PRINTPAC-UEB LIMITED. Improvements in or relating to a holding device and/or a method of holding. (13th June, 1991; New Zealand).
- 355/MAS/92 WES Technology Inc. Blades for Isolators. (11th June 1991).
- 356/MAS/92 INDIAN SPACE RESEARCH ORGANISATION. A process of flat absorber black chromate conversion coating on magnesium aluminium alloys.
- 357/MAS/92 SHASUN CHEMICALS (MADRAS) LTD. An improved process for the preparation of Ranitidine hydrochloride as antiulcer drug.

ALTERATION OF DATE UNDER SECTION-16

- 171217 (197/Cal/90). Ante dated to January 6, 1987.
- 171218 (734/Cal/90). Ante dated to February 27, 1987.
- 171219 (899/Cal/90). Ante dated to February 16, 1988.

## COMPLETE SPECIFICATION ACCEPTED

Notice is hereby given that any person interested in opposing the grant of patents on any of the Applications concerned, may, at any time within four months of the date of this issue or within such further period not exceeding one month applied for on Form 14 prescribed under the Patents Rules, 1972 before the expiry of the said period of four months, given notice to the Controller of Patents on the prescribed Form 15 of such opposition. The written statement of opposition should be filed alongwith the said notice or within one month of its date as prescribed in Rule 36 of the Patents Rules, 1972.

The classifications given below in respect of each specification are according to Indian Classification and International Classification.

A limited number of printed copies of the specifications listed below will be available for sale from the Government of India Book Depot, 8, Kiran Sankar Roy Road, Calcutta, in due course. The price of each specification is Rs. 2/- (postage extra). Requisition for the supply of the printed specifications should be accompanied by the number of the specifications as shown in the following list.

Typed or photo copies of the specifications together with photo copies of the drawings, if any, can be supplied by the Patent Office, Calcutta on payment of the prescribed copying charges which may be ascertained on application to that office. Photo copying charges may be calculated by adding the number of pages in the specification and drawing sheets mentioned below against each accepted specification and multiplying the same by four to get the charges as the copying charges per page are Rs. 4/-.

## स्वीकृत सम्पूर्ण विनिर्देश

एतद्वारा यह सूचना दी जाती है कि सम्बद्ध आवेदनों में से किसी पर पेटेंट अनुदान का विरोध करने के इच्छुक कोई व्यक्ति, इसके निर्गम की तिथि से 4 महीने या अभिसर ऐसी अवधि जो उक्त 4 महीने की अवधि की समाप्ति के पूर्व पेटेंट नियम, 1972 के तहत विहित प्रपत्र 14 पर आवेदित एक महीने की अवधि से अधिक न हो, के भीतर कभी भी नियंत्रक, एकस्व को ऐसे विरोध की सूचना विहित प्रपत्र 15 पर दे सकते हैं। विरोध संबंधी लिखित वक्तव्य, उक्त सूचना के साथ अथवा पेटेंट नियम, 1972 के नियम 36 में यथा विहित इसकी तिथि के एक महीने के भीतर ही फाइल किए जाने चाहिए।

“प्रत्येक विनिर्देश के संदर्भ में नीचे दिए वर्गीकरण, भारतीय वर्गीकरण तथा अन्तर-राष्ट्रीय वर्गीकरण के अनुरूप है।”

नीचे सूचीगत विनिर्देशों की सीमित संख्यक मुद्रित प्रतियां, भारत सरकार बुक डिपो, 8, किरण शंकर राय रोड, कलकत्ता में विक्रय हेतु यथा समय उपलब्ध होगी। प्रत्येक विनिर्देश का मूल्य 2/- रु. है।

(अतिरिक्त आकृति)। मुद्रित विनिर्देश की आपूर्ति हेतु मांग पत्र के साथ निम्नलिखित सूची में यथा प्रदर्शित विनिर्देशों की संख्या संलग्न रहनी चाहिए।

रूपांकन (चित्र आरेखों) की फोटो प्रतियां यदि कोई हों, के साथ विनिर्देशों की टंकित अथवा फोटो प्रतियों की आपूर्ति पेटेंट कार्यालय, कलकत्ता द्वारा विहित लिप्यान्तरण प्रभार जिसे उक्त कार्यालय से पत्र व्यवहार द्वारा सुनिश्चित करने के उपरांत उसकी अदायगी पर की जा सकती है। विनिर्देश की पृष्ठ संख्या के साथ प्रत्येक स्वीकृत विनिर्देश के सामने नीचे वर्णित चित्र आरेख कागजों को जोड़कर उसे 4 से गुणा करके; (क्योंकि प्रत्येक पृष्ठ का लिप्यान्तरण प्रभार 4/- रु. है) फोटो लिप्यान्तरण प्रभार का परिकलन किया जा सकता है।

Ind. Class - 27-N & 192 - [GROUPS - XXVI(1) & LXVI(10)]

Int. Cl. : A 45 F 4/04; A 45 B 19/00; 25/02.

A PORTABLE FOLDING TYPE UMBRELLA/TENT FRAME.

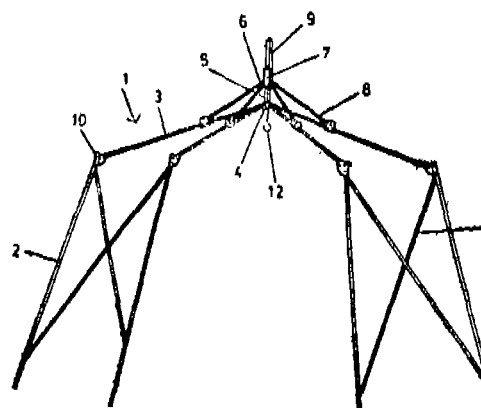
Applicant & Inventor : CHAKRAPANI SWAMINATHAN, AN INDIAN NATIONAL OF 90, NAGESWARAN, NORTH STREET, KUMBAKONAM, TAMIL NADU.

Application No. 274/Mas/88 filed on April 28, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972), Patent Office, Madras Branch.

## 4 Claims

A portable folding type umbrella/tent frame comprising at least two pairs of legs (1) and a latch, each said leg consisting of two pieces (2, 3) hingedly joined together, wherein the said latch consisting of a lower member (4) provided with a male member (5) and an upper member (6) provided with a female member (7) adapted to receive said male member, the converging ends of the legs being hingedly mounted on the latch, diverging pieces attached to each of legs are provided with diagonal reinforcing members (11), a plurality of ribs (8) mounted on the converging pieces of the legs and the upper member (6).



Compl. Specn. 5 pages.

Drgs. 2 sheets.

Ind. Cl. : 188—[GROUP—XXXIII(9)] 171172

Int. Cl.<sup>4</sup> : C 23 C 14/54

A PROCESS FOR PRODUCING A COATED SUBSTRATE MADE OF MATERIALS SUCH AS METALS, DIELECTRIC OR SEMICONDUCTOR COATED WITH DIAMOND LIKE CARBON (DLC) HAVING IMPROVED OPTICAL AND DURABILITY PROPERTIES.

Applicant : INDIAN SPACE RESEARCH ORGANISATION, DEPARTMENT OF SPACE, CAUVERY BHAVAN, KEMPEGOWDA ROAD, BANGALORE-560 009, KARNATAKA, INDIA.

Inventors : (1) RAVI SHANKAR YALAMANCHI, (2) THUTUPALLI GOPALA KRISHNA MURTY.

Application No. 278/Mas/88 filed on May 2, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972), Patent Office, Madras Branch.

## 2 Claims (No drawing)

A process for producing a coated substrate made of materials such as metals, dielectric or semiconductor, coated with diamond like carbon (DLC) having improved optical and durability properties comprising the steps of (a) cleaning the substrate in a conventional manner (b) sputter etching of the substrate in a conventional manner in the presence of inert gas (c) etching of the substrate in the presence of an inert gas and oxygen at a total pressure in the range of  $2 \times 10^{-2}$  to  $8 \times 10^{-2}$  torr, for a period of 2 to 3 minutes, continuing the etching till the predetermined thickness of DLC coating is retained on the substrate, if decoating is desired; and (d) depositing the diamond like carbon in the presence of a mixture of inert and hydrocarbon gases in a conventional manner to obtain the desired thickness of the coating.

Compl. Specn. 17 pages.

Ind. Cl. : 195-C[GROUP—XXIX(3)] 171173

Int. Cl.<sup>4</sup> : F 16 K 21/02

IMPROVED PRESSURE ADJUSTING DEVICE FOR CONTROLLING THE LIQUID GAS FLOW RATE.

Applicant : LIQUIPIBIGAS S.p.A., OF VIA MEDICI DEL VASCCELLO, 26 20138-MILANO, ITALY, AN ITALIAN COMPANY.

Inventor : MARIO LIMIROLI.

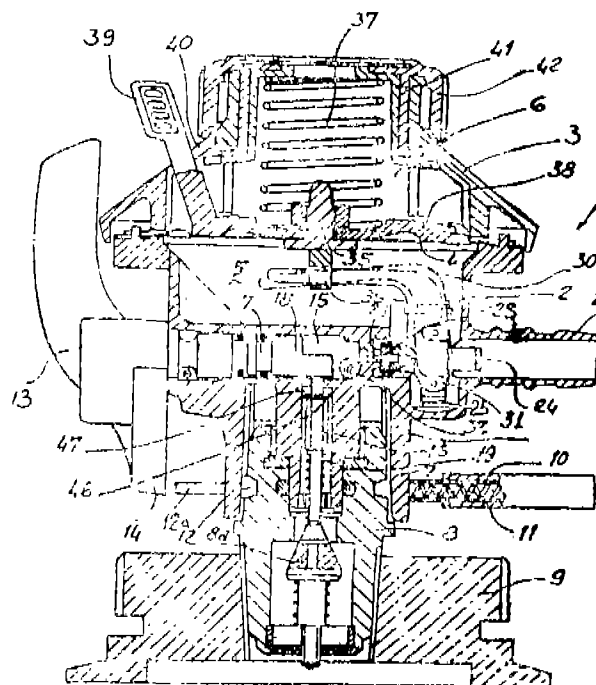
Application No. 288/Mas/88 filed on May 4, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972), Patent Office, Madras Branch.

## 9 Claims

An improved pressure adjusting device for controlling the flow rate of liquid gases, comprising a body (1) consisting of a bottom half shell (2) and a top half shell (3), which are coupled to one another through the inter-position of a resilient membrane (4), said resilient membrane defining a gas pressure control chamber (6) and a gas pressure reducing and delivery chamber (5), communicating with a delivery

outlet, said bottom half shell (2) defining with the gas valve (8) of the gas pressure vessel (8) a coupling end piece (7), characterised in that said pressure adjusting device further comprises quick coupling means (10) operating between said coupling end piece (7) and gas valve (8), adapted to operatively engage with a knob (13) for operating valve means of the pressure adjusting device so as to prevent said pressure adjusting device from improperly engaging with and/or disengaging from said gas pressure vessel (8) as said valve means are in their open position.



Compl. Specn. 16 pages.

Drgs. 2 sheets

Ind. Cl. : 69 M[GROUP—LIX(L)] 171174

Int. Cl.<sup>4</sup> : H 01 H 5/4

SWITCH OPERATING MECHANISM.

Applicant : MITSUBISHI DENKI KABUSHIKI KAISHA OF NO. 2-3, MARUNCUCHI 2-CHOME CHIYODA-KU TOKYO, JAPAN, A JAPANESE COMPANY.

Inventor : MICHIHARU OKUNO.

Application No. 384/Mas/88 filed on June 6, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972), Patent Office, Madras Branch.

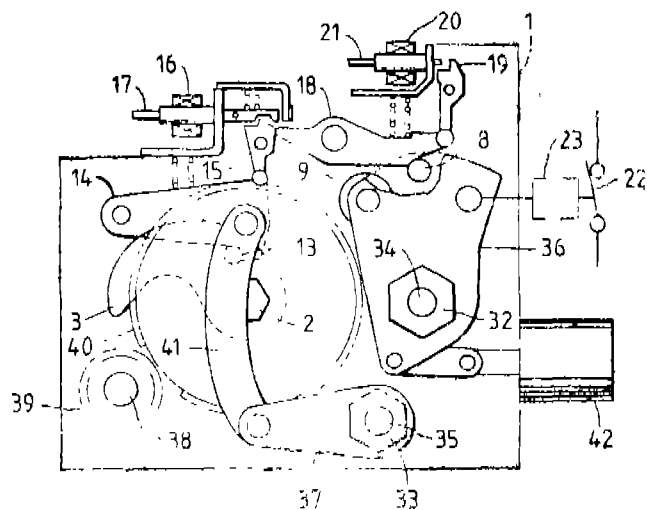
## 2 Claims

A switch operating mechanism for operating a movable contactor (22) of a circuit breaker, comprising

a stationary housing (1);

a link means (23, 36) connected to said movable contactor (22);

a circuit breaking spring means for opening said movable contactor (22) consisting of a first torsion bar (28) and a second torsion bar (34), said first torsion bar (28) having a first end which is fixedly secured to a first rotatable member (26), and a second end which is fixedly secured to said stationary housing (1), said second torsion bar (34) having a third end which is fixedly secured to said first rotatable member (26) for disposing said third end diametrically opposite to said first end of said first torsion bar (28), and a fourth end which is rotatably supported by said stationary housing (1) and coupled to said link means (23, 36).



Compl. Specn. 16 pages.

Drgs. 4 sheets.

Ind. Cl. : 116-E-[GROUP XLIX]

171175

Int. Cl.<sup>4</sup> : B 60 S 9/00

#### HYDROPNEUMATIC JACK FOR ARTICULATED TRACKED VEHICLES.

Applicant : S A M M—SOCIETE D'APPLICATIONS DES MACHINES MOTRICES, A FRENCH COMPANY, OF CHEMIN DE LA MALMAISON-91570 BIEVRES, FRANCE.

Inventors : (1) JOSEPH PHILIPPE, (2) ERROCHAT JEAN-MICHEL.

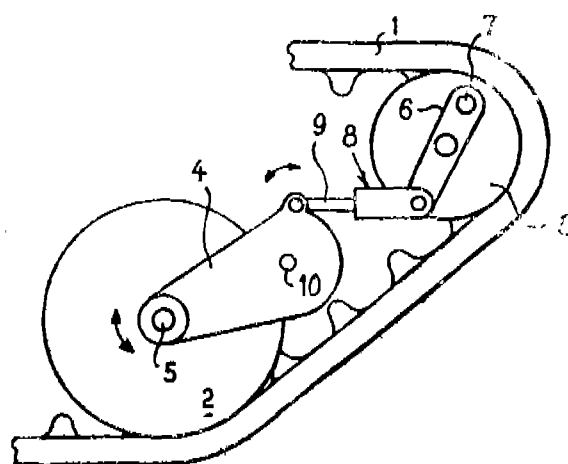
Application No. 456/Mas/88 filed on June 30, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972), Patent Office, Madras Branch.

#### 5 Claims

Hydropneumatic jack for articulated tracked vehicles, comprising a tubular body closed at one end and open at the opposite end, a hollow rod slidably mounted in the body in a sealed manner, a first chamber containing a freely

slidable piston which divides the chamber into two compartments sealed off from each other, a second chamber between a transverse end wall constituting the end of the hollow rod and a transverse wall of the body closing the body at one end, said transverse end wall being provided with a nozzle for putting the second chamber in communication with the neighbouring compartment of the hollow rod, said neighbouring compartment and said second chamber being filled with a hydraulic liquid under pressure and the second compartment being filled with a pressurized gas, said jack having a tubular case closed by an end wall at one end and open at the opposite end of the case, the body is slidable in a sealed manner and a third chamber filled with grease is left between the end wall of the case and the transverse wall closing the end of the body.



Compl. Specn. 13 pages.

Drgs. 2 sheets.

Ind. Cl. : 119, C, D [GROU—XXI (39)]

171176

Int. Cl.<sup>4</sup> : D 03 D 51/02

#### DEVICE FOR DRIVING THE GRIPPER BEARING BELTS OR RODS IN TEXTILE LOOMS.

Applicant : MANIFATTURA CINCLA S. R. L. OF VIA MOIA, 100 BRUGHERIO, MILANO, AN ITALIAN COMPANY, ITALY.

Inventor : RENZO FORNASARI.

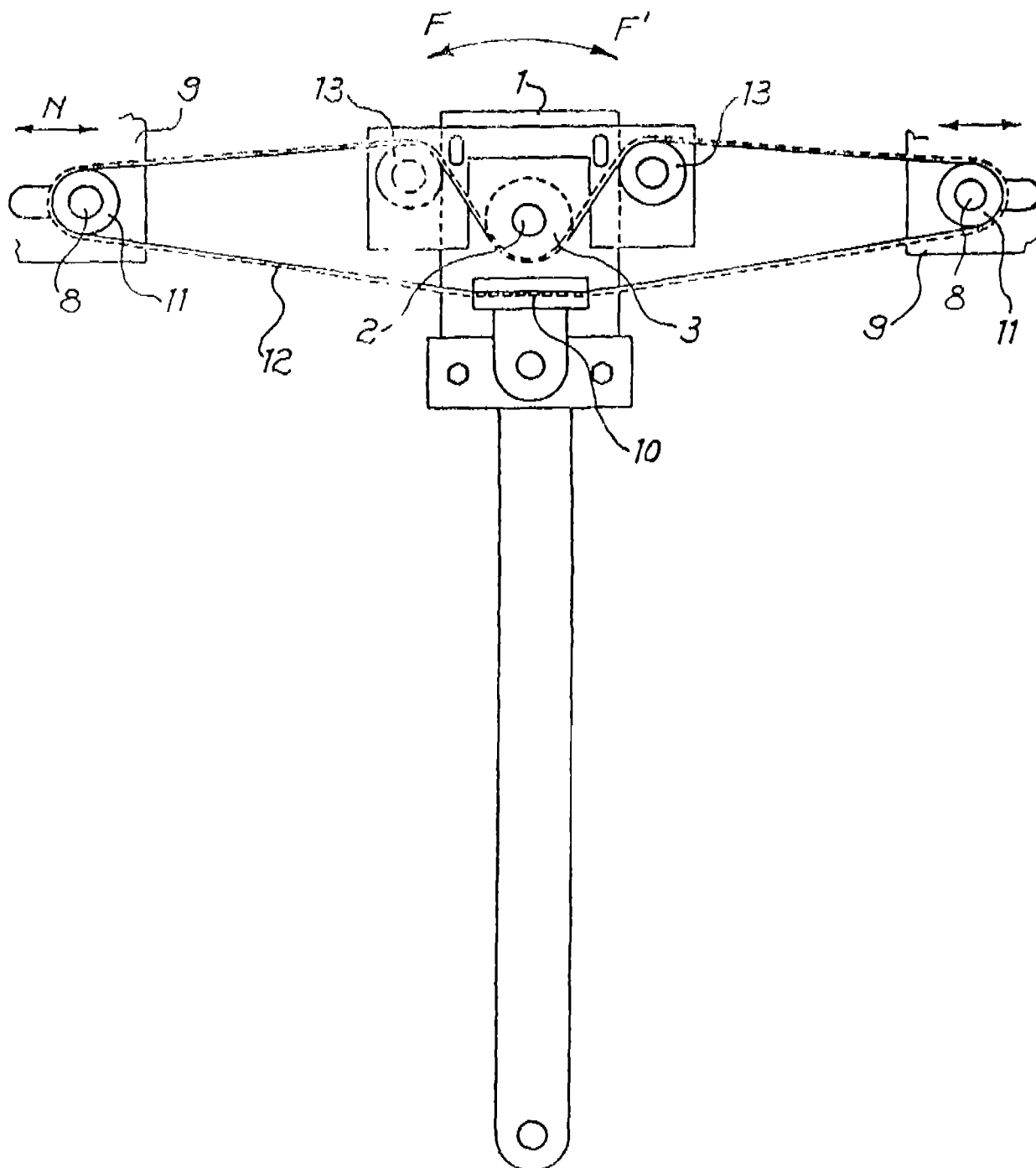
Application No. 464/Mas/88 filed on July 5, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972), Patent Office, Madras Branch.

#### 4 Claims

A device for driving gripper bearing belts or rods in sley-type looms, characterised in that it comprises, associated with the sley (1) an endless driving means (12) and associate

driving means (12) engaging said toothed pulley (3) and extending between said first and second pair of transmission pulleys, said toothed pulley (3) being associated with an angled driving gear (4) and a spur wheel (5) for driving a gripper bearing belt or rod (6).





Ind. Cl. : 206 E [GROUP-LXII]

171177

Appropriate office for opposition proceedings (Rule 4, Patents Rules, 1972), Patent Office Branch, Madras.

Int. Cl.<sup>4</sup> : H 03 K 19/20.**A DEVICE FOR MINIMISING TIMING ERRORS IN AN ELECTRONIC CIRCUIT.**

Applicant : BRITISH AEROSPACE PUBLIC LIMITED COMPANY OF 100, PALL MALL, LONDON, SW1Y 5HR, ENGLAND; BRITISH COMPANY.

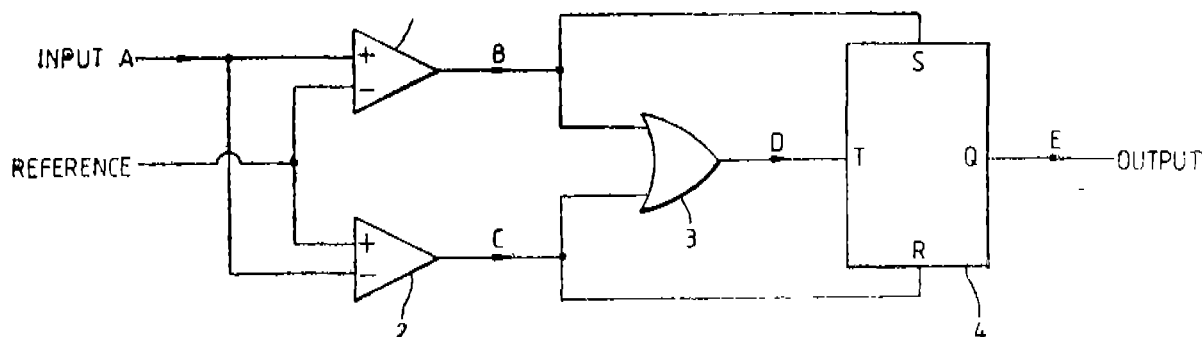
Inventor : RICHARD JOHN PARNEL.

Application No. 481/Mas/88 filed on 8th July 1988.

Convention dated 9-7-87 No. 8716144 (UK).

5 Claims

A device for minimising timing errors in an electronic circuit, comprising at least two comparators connected in anti-phase with a common input and separate outputs to obtain output signals having opposite sense at each output, from an input signal, said output of each said comparators being connected to a bistable circuit and to a logic gate for combining the signals from the said outputs to a single signal and supplying it to a toggle input of the said bistable circuit.



Compl. specn. 8 pages

Drg. 3 sheets.

Ind. Class : 48-A &amp; 90-I [GROUPS-LVIII(3) &amp; XXXVI]

171178

Int. Cl.<sup>4</sup> : C 03 B 37/023.**AN OPTICAL FIBER CABLE.**

Applicant : SUMITOMO ELECTRIC INDUSTRIES, LTD., OF NO. 15, KITAHAMA 5-CHOME HIGASHI-KU OSAKA-SHI, OSAKA, JAPAN, A JAPANESE COMPANY.

Inventors : (1) BANG LIN

(2) YOSHINOBU KITAYAMA.

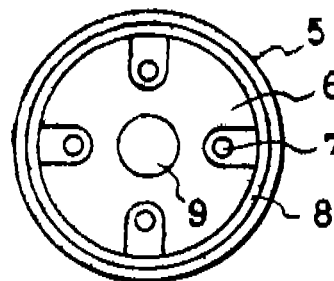
Application No. 568/Mas/88 filed August 9, 1988.

Appropriate office for opposition proceedings (Rule 4, Patents Rules, 1972), Patent Office Branch, Madras.

3 Claims

An optical fiber cable, comprising :

a central member, a spacer; and at least one optical fiber or optical fiber unit would helically on the outer surface of said central member in periodically reversing directions, said optical fiber or optical fiber unit positioned between at least one reversal point and the next reversal point and being capable of moving freely in a longitudinal direction of said central member while keeping its helical shape, wherein the lay reversing angle  $\phi$  through which an optical fiber is rotated in the circumferential direction of the central member over the distance from one reversal point of the direction of helix to the next reversal point is within the range :  $240^\circ + 360^\circ \times n \leq \phi \leq 310^\circ + 360^\circ \times n$ , where  $n$  is zero or a positive integer, so that distortion of said optical fiber or optical fiber unit generated when said optical fiber cable is bent is suppressed.



Compl. specn. 24 pages

Drgs. 3 sheets

Ind. Class : 174-F—[GROUP-LII(4)]

171179

Int. Cl.<sup>4</sup> : B 60 G 25/00.**HYDROPNEUMATIC SUSPENSION UNIT FOR WHEELED VEHICLES.**

Applicant : SAMM-SOCIETE D'APPLICATIONS DES MACHINES MOTRICES, OF CHEMIN DE LA MAL-MAISON, 91570 BIEVRES, FRANCE, A FRENCH COMPANY.

Inventors : (1) JOSEPH PHILIPPE

(2) PERROCHAT JEAN-MICHEL.

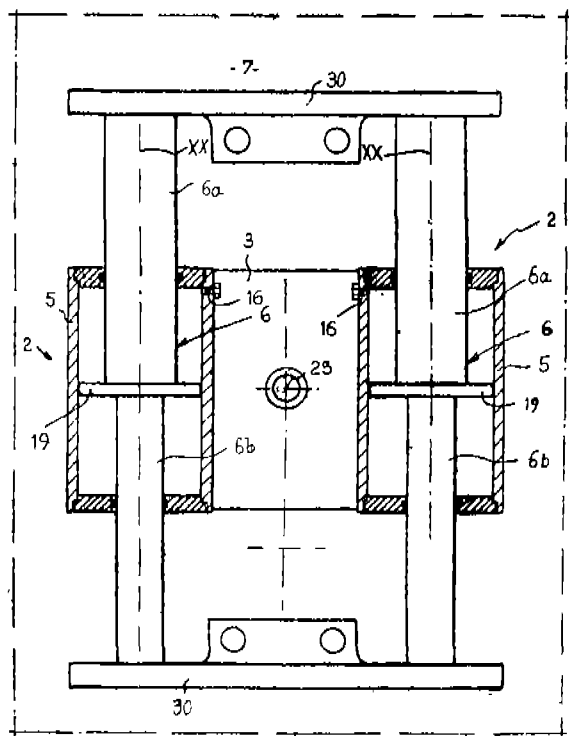
Application No. 578/Mas/88 filed August 11, 1988.

Appropriate office for opposition proceedings (Rule 4, Patents Rules, 1972), Patent Office Branch, Madras.

6 Claims

Hydropneumatic suspension unit for a wheeled vehicle comprising two hydropneumatic jacks (2) each being mounted on one side of an associated wheel (1) forming a closed hydraulic circuit, each jack consisting of a first member (6) and a second member (5), the said first

member (6) or the said second member (5) being fixed to the chassis (7) of the vehicle, the said second member (5) or the said first member (6) being slidably mounted on the corresponding member fixed to the chassis (7) and having means for guiding the sliding movement of the said first member (6) or the said second member (5) at the two opposite end portions thereof, and the said slidably mounted members (5 or 6) of each jack (2) being rigidly connected together and mechanically fastened to the corresponding wheel (1).



Compl. specn. 11 pages

Drwg. 5 sheets

Ind. Class : 125—B<sub>0</sub> & 4.C—[GROUP-XII(8)] 171180

Int. Cl.<sup>4</sup> : F16K 21/12; 21/16.

#### COLLAPSIBLE CHAMBER METERING DEVICE.

Applicant : BESPAC PLC, A BRITISH COMPANY, OF BERGEN WAY, NORTH LYNN INDUSTRIAL ESTATE, KING'S LYNN, NORFOLK PE30 2JJ, UNITED KINGDOM.

Inventor : DAVID JOHN HOWLETT.

Application No. 610/MAS/88 filed August 30, 1988.

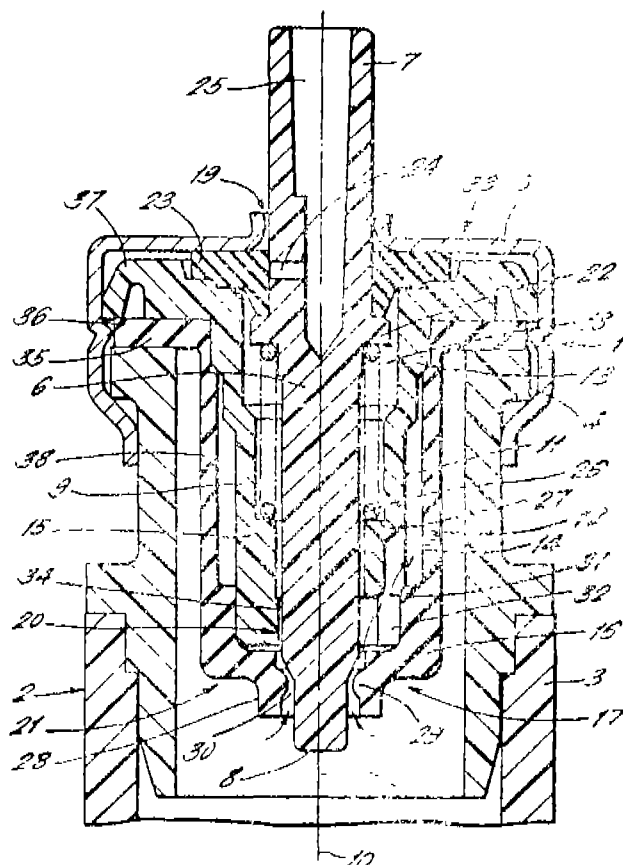
Convention date : September 7, 1987; (No. 8720978; United Kingdom).

Appropriate office for opposition proceedings (Rule 4, Patents Rules, 1972), Patent Office, Madras Branch.

#### 5 Claims

A collapsible chamber metering device for use in a pressurised dispensing container (2) comprising a generally cylindrical body (3), an elastomeric sleeve (12) coaxially overlaying the body and defining a collapsible chamber (14) therebetween, the body defining an internal chamber (18), channel means (31), providing a fluid flowpath between the said internal chamber and the said collapsible chamber, an axially slidable valve actuating stem (6) extending coaxially through the said internal chamber, outlet valve means (33) operable between the said stem

and the said body at the outer end of the said internal chamber so as to dispense fluid therefrom in an open condition of the valve and inlet valve means (21) operable between the said body and the said stem at the inner end of the said internal chamber to admit fluid thereto in a closed condition of the valve wherein the said inlet valve means has an annular seal portion (29) of the said sleeve co-operating with an inner end portion (8) of the said stem extending therethrough and wherein the said sleeve has an annular shoulder portion (16) nestably receiving the inner end of the body, wherein the said shoulder portion and the said seal portion being integrally formed of relatively thick and thin material respectively whereby the said shoulder portion and seal portion are relatively rigid and flexible respectively to positively locate the said sleeve upon the valve body whilst permitting deformation of the seal portion.



Compl. specn. 14 pages

Drwgs. 2 sheets

Ind. Cl. : 170D Gr. [XLIII(4)]

171181

Int. Cl. : C 11 d 9/02

#### SOAP COMPOSITIONS IN SOLID OR PASTE FORMS AND METHOD OF MAKING SAME.

Applicant : HINDUSTAN LEVER LIMITED, A COMPANY INCORPORATED UNDER THE INDIAN COMPANIES ACT, 1913, AND HAVING ITS REGISTERED OFFICE AT HINDUSTAN LEVER HOUSE, 165/166 BACKBAY RECLAMATION, BOMBAY-400 020, MAHARASHTRA, INDIA.

Inventors : 1. DEVADATTA SHIVAJI SANKHOLKAR, 2. SUNIL MANOHARLAL SAHNI.

Provisional Application No. 212/Bom/1989 filed on 31-7-1989 and complete after Provisional left on 31-7-1990.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rule 1972), Patent Office, Bombay-13.

## 12 Claims

1. A soap composition in solid or paste form containing 35 to 90 wt% of an alkali metal soap mixture characterised in that the said soap mixture comprises with respect to the soap mixture 0.5 to 20 wt% of a soap fraction including  $C_8$  and  $C_{10}$  soaps in an amount of atleast 30 wt% of the soap fraction and 99.5 to 80 wt% of a soap fraction including  $C_{16}$  and soaps of chain length higher than  $C_{16}$ , preferably  $C_{18}$  soaps.

Prov. Specn. 14 pages.

Drg. Nil.

Compl. Specn. 19 pages.

Drg. Nil.

Ind. Cl. 35B [XXV(2)]

17182

Int. Cl. : C 04B 7/32

IMPROVED DIRECT PROCESS FOR MANUFACTURING CALCIUM ALUMINATE HYDRAULIC REFRACTORY BINDER HAVING INTERMEDIATE PURITY OF 35-65% ALUMINA AT LOW SINTERING TEMPERATURE OF LESS THAN 1300°C.

Applicants : THE ASSOCIATED CEMENT COMPANIES LIMITED CEMENT HOUSE, 121 MAHARSHI KARVE ROAD, BOMBAY-400 020, MAHARASHTRA, INDIA.

Inventors : (1) SIVARAMAKRISHNAN NARAYANAN, (2) DR. INDRA NATH CHAKRABORTY, (3) TAPAN MUKHOPADHYAYA (4) SUSHIL KANTA BISWAS AND (5) DR. ANJAN KUMAR CHATTERJEE.

Application No. 230/Bom/1989 filed on August 17, 1989.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rule 1972), Patent Office, Bombay-13.

## 4 Claims

Improved direct process for manufacturing calcium aluminate hydraulic refractory binder having intermediate purity (35-65%  $Al_2O_3$ ) and having  $Al_2O_3/CaO$  ratio less than 1 : 7 and sintered at low temperature of less than 1300°C., comprising the steps of :

- (i) crushing/grinding/pulverizing separately or together argillaceous and calcareous materials stated in TABLE-III to pass through less than-200 predetermined Tyler mesh;
- (ii) blending said pulverized raw mix of step (i) with silicious additives stated in Table-IV;
- (iii) nodulizing/briquetting/pelletizing the blended mass of step (ii) with addition of less than 3% by weight of calcium halides and other hereinstated organic/inorganic binders such as dextrin, dextrose, sulfite, PVA (Poly-Vinyl-alcohol) and the like or combinations thereof to broaden sintering range of said raw mix;
- (iv) sintering in a rotary or other suitable kiln the raw mix of step (iii) at temp. less than 1300°C.;
- (v) allowing the sintered product of step (v) to cool down to ambient temperature; and
- (vi) grinding/pulverizing the product of step (v) to pre-determined fineness having properties given in Table-II for being used as refractory binder in the manufacture of refractory bricks/shapes/monolithics.

Compl. Specn. 11 pages.

Drgs. Nil.

Ind. Cl. 201 C-II (4)

171183

Int. Cl. : CO2 F-1/66

AN IMPROVED METHOD FOR DEFLUORIDATION OF WATER.

Applicant : ION EXCHANGE INDIA LTD., OF TIECICON HOUSE, DR. E. MOSES ROAD, MAHALAXMI, BOMBAY-400 071, MAHARASHTRA, INDIA, AN INDIAN ORGANISATION.

Application No. 305/Bom/89 filed by 10-11-89.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rule 1972), Patent Office, Bombay-13.

## 6 Claims

An improved method of defluoridating water containing fluoride ions by passing same through a bed of defluoridating agent such as activated alumina characterized in that the water containing fluoride ions is first brought to a pH of 5.0 to 5.5 by subjecting the fluoride ion containing water to acid treatment by using mineral acid like dilute HCl or dilute  $H_2SO_4$  or weak acid cation exchange resin and then passed through the bed of defluoridating agent of activated alumina.

Compl. Specn. 10 pages.

Drgs. Nil.

Ind. Cl. : 98 G, E, D, [VII (2)]

171184

Int. Cl. : F 28D 3/04, 1/053

IMPROVEMENTS IN OR RELATING TO A SHELL AND TUBE HEAT EXCHANGER OF THE TYPE CONSISTING OF DOUGHNUT AND DISC BAFFLES.

Applicants : LARSEN & TOUBRO LIMITED, L & T HOUSE, BALLARD ESTATE, BOMBAY-400 038, MAHARASHTRA, INDIA.

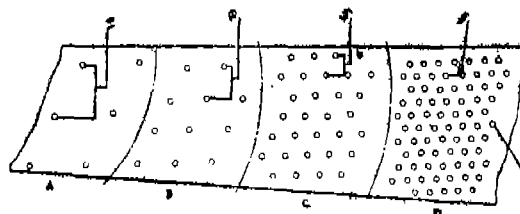
Inventors : (1) MATHUR RAMASWAMY SHANKER & (2) GAJANAN KRISHNAJI SADEKAR.

Application No. 152/Bom/1990 filed on June 12, 1990.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rule 1972), Patent Office, Bombay-13.

## 2 Claims

A shell and tube heat exchanger of the type consisting of doughnut and disc baffles the improvement being characterized in that the said baffles are divided into zones from the inner edge to the outer edge of the said baffles and tubes are simply supported in the said zones in spaced apart lines such that the transverse pitch of the tubes in the said zones progressively decreases from the innermost zone to the outermost zone to minimise variation of shell side fluid flow velocity and heat transfer rate across the said baffles.



Compl. Specn. 10 pages.

Drgs. 5 sheets.

Cl. : 42 A 2 C (XVI)

171185

Int. Cl. : A 24 D 1/12, 13/16

A FILTER CIGARETTE IN COMBINATION WITH AN ASH COLLECTING AND SAFETY IMPARTING AND SELF-LIGHTING ENCLOSURE.

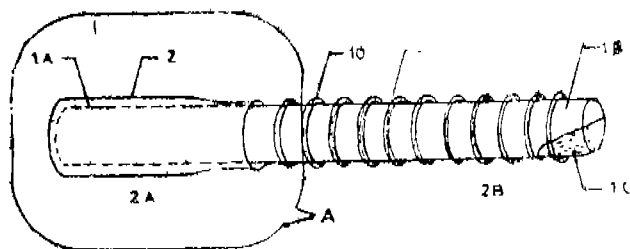
Applicant & Inventor : VEERESH BAHADUR, 29-A 14 TAKSHILA, MAHAKALI CAVES ROAD, ANDHERI (E), BOMBAY-400 093, MAHARASHTRA, INDIA, AN INDIAN CITIZEN.

Application No. 165/Bom/90 filed on 21-6-90.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rule 1972), Patent Office, Bombay-13.

#### 4 Claims

1. A filter cigarette in combination with an ash collecting and safety imparting and self-lighting enclosure consisting of filter material cigarette holder, the filter tipped inner end of said cigarette being located in a recess provided in said holder from the inner end thereof, said recess being provided with a flared larger profile towards the inner end of said holder to define a flared clearance between the inner end of said holder and inner end of said cigarette, the outer end of said cigarette being 3 (d) & 3 (f) provided with a laterally exposed portion of tobacco, flexible tubular flame screen consisting of a metallic wire mesh or perforated metallic sheet, the outer end of said flame screen being closed and the inner end of said flame screen being tapered and provided with a plurality of circumferentially spaced apart axially extending prongs, said flame screen being disposed over said cigarette in a spaced apart relationship therewith and the prongs of said flame screen being anchored in said flared clearance between the inner end of said holder and inner end of said cigarette the outer peripheral profile of the inner end of said flame screen and flared profile towards the inner end of said holder being selected to provide a tension fit of the inner end of the said flame screen against the said holder, the outer end of said flame screen being laterally provided with a molten metal deposit on the outer surface and inner surface thereof corresponding to the exposed portion of tobacco at the outer end of said cigarette, at least one hole being provided vertically through the molten metal deposit both on the outer surface and inner surface at the outer end of said flame screen, a moisture-proof safety match chemical deposit provided in said hole at the outer end of said flame screen, said safety match chemical deposit protruding the molten metal deposit both on the outer surface and inner surface at the outer end of the said flame screen, a wick member fixed to the exposed portion of tobacco at the outer end of said cigarette such that said wick member abuts the safety match chemical deposit protruding the inner surface at the outer end of said flame screen, a translucent and porous material wrapper provided around said flame screen upto the joint between said prongs and said holder, said wrapper being laterally provided with a cut corresponding to the molten metal deposit at the outer end of the said flame screen and a band provided around the joint between said prongs and said holder.



Compl. Specn. 17 pages.

Drgs. 5 sheets.

Ind. Cl. : 189 [LXVI (9)]

171186

Int. Cl. : A 61K - 7/48.

#### WATER-IN-SILICONE OIL TRANSPARENT EMULSION

Applicants : HINDUSTAN LEVER LIMITED OF HINDUSTAN LEVER HOUSE, 165/166, BACKBAY RECLAMATION, BOMBAY-400020, MAHARASHTRA, INDIA, A COMPANY INCORPORATED UNDER THE INDIAN COMPANIES ACT, 1913.

Inventors : (1) MAVIS CLAIRE PEREIRA A BRITISH SUBJECT 23 GARDENS ROAD, LOWER BEBINGTON, WIRRAL, MERSEYSIDE WEG 15, 4800 BIELEFELD 1 WEST GRMANY.

(2) UDO SPIEGEL A GERMAN CITIZEN, STRALAUER WEG 15, 4800 BIELEFELD 1, WEST GERMANY,

Application No. 173/BOM/90 filed on 29-6-90.

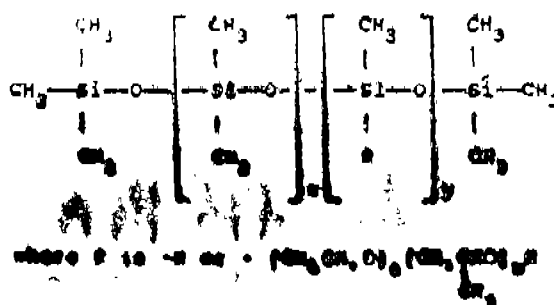
UK Priority dated 29-6-89.

Appropriate Office for opposition proceedings (Rule 4, Patents Rules 1972) Patent Office, Bombay Branch.

#### 15 Claims

A water-in-silicone oil transparent emulsion, suitable for topical application to mammalian skin or hair, which comprises, in addition to water :

- (i) from 1 to 50% by weight of a volatile polydimethylsiloxane;
- (ii) from 0.1 to 20% by weight of a silicone surfactant ingredient comprising a polymer of dimethyl polysiloxane with polyoxyethylene and/or polyoxypropylene side chains having a molecular weight of from 10,000 to 50,000 and having the structure;



a having a value of from 9 to 115,

b having a value of from 0 to 50,

x having a value of from 133 to 673,

y having a value of from 25 to 0.25, and

- (iii) from 1 to 50% by weight of a transparency structurant comprising at least one polyhydric alcohol chosen from those having from 3 to 8 carbon atoms.

Compl. specn. 27 pages,

Drg. Nil

Ind. Cl. : 98 I [VII(2)]

171187

Int. Cl. : F 24 j - 2/04; 2/16.

#### AN IMPROVED SOLAR WATER HEATER.

Applicant & Inventor : VASANT RAMCHANDRA BIRMAL, 47 BIRMAL NAGAR, SHANKAR SHETH ROAD, PUNE-411 037, MAHARASHTRA, INDIA.

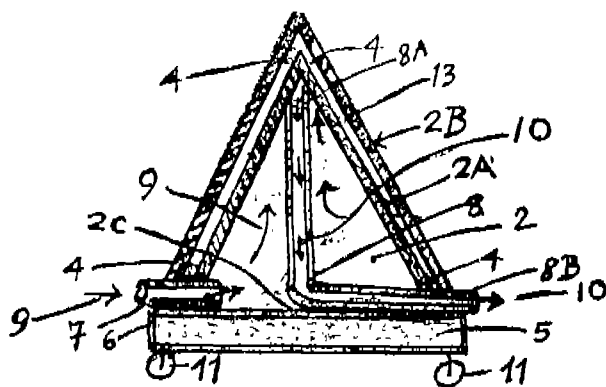
Application No. 191/BOM/1990 filed July 24, 1990.

Appropriate Office for opposition proceedings (Rule 4, Patents Rules 1972), Patent Office Branch, Bombay-13.

#### 3 Claims

An improved solar water heater comprising a plurality of flat bed solar collector panels attached on a thermally insulated base in pyramidal shape to form therebetween a hot water storage tank, the said base consisting of a metal plate provided therebelow with thermal insulation with castor wheels, each of said flat bed solar collector panels consisting of a back plate coated on its outer surface with non-reflective black paint, a transparent toughened glass sheet or polycarbonate plastic sheet provided over said back plate in spaced relationship leaving a gap therebetween, and sealed with a gasket provided between said back plate and said transparent sheet, a cold water inlet provided in one of said flat

bed solar collector panel near its bottom and a hot water pipe provided inside said hot water storage tank having its inlet at the apex of said tank and its outlet projecting out from the other flat bed solar collector panel near its bottom.



Compl. specn. 10 pages

Drg. 1 sheet

Ind. Cl. : 114 D, E Gr. [XXIV(3)]

171188

Int. Cl. : G 01 N - 33/44.

Title : A DEVICE FOR SORTING SEMI-FINISHED WET BLUE LEATHER INTO VARIOUS GRADES.

Applicant : TATA EXPORTS LIMITED, AT BLOCK A, SHIVSAGAR ESTATE, DR. ANNIE BESANT ROAD, WORLI, BOMBAY-400 018, MAHARASHTRA, INDIA.

Inventor : (1) NISHIKANT BHAGAWAN KARMAR-KAR.

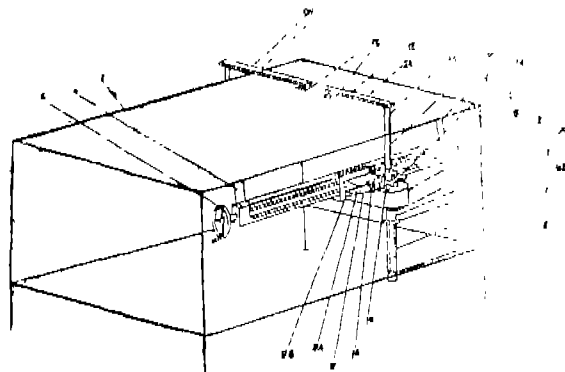
Application No. 227/BOM/90 filed on 29-8-1990.

Appropriate Office for opposition proceedings (Rule 4, Patent Rules 1972) Patent Office Branch, Bombay-13.

## 2 Claims

A device for sorting semi-finished wet blue leather into various grades, consisting of a table provided with a pair of opposing leather holder means disposed at opposite sides thereof, each of said leather holder means consisting of a leadscrew guide rigidly mounted on the respective side of said table, a leadscrew rotatably supported in said leadscrew guide and provided with a handle at one end thereof, a nut provided on said lead screw in thread engagement therewith and located in a slide which in turn is slidably mounted on said leadscrew guide, a tubular housing vertically disposed and passing through a hole provided in said slide, said tubular housing being rotatable in said hole and held onto said slide between a pinion rigidly mounted on said tubular housing and abutting the upper surface of said slide and a first flange provided on said tubular housing and abutting the lower surface of said slide, a first pneumatic cylinder vertically disposed and rigidly fixed to a second flange provided on said tubular housing in spaced apart relationship with said first flange, the piston rod of said first pneumatic cylinder passing through and protruding said tubular housing, a horizontally disposed arm one end of which is rigidly fixed to the protruding end of the piston rod of said first cylinder and the other end of which is provided with a button at the inner surface thereof, a solenoid operated plunger type direction control valve rigidly mounted at the upper end of said tubular housing with the plunger of said direction control valve being disposed in a longitudinal groove in the piston rod of said first cylinder through a radial hole provided in said tubular housing at the upper end thereof, the lower surface wall of said longitudinal groove being provided with a taper, a rack horizontally slidably disposed in a rack guide which in turn is horizontally disposed and rigidly mounted on said slide, said pinion being in mesh with said rack, a second pneumatic cylinder horizontally disposed and rigidly fixed

to one end of said rack guide, the piston rod of said second pneumatic cylinder being rigidly connected to one end of said rack corresponding to said one end of said rack guide and a pair of 4-ports foot pedal operated valves supported at the base of said table, a first port of each of said foot pedal operated valves being connectable to an air supply, a second port and a third port of one of said foot pedal operated valves being connected to the non-piston rod side and piston rod side, respectively, of the first cylinders of said leather holder means, a second port of the other foot pedal operated valve being connected to the piston rod side of the second cylinders of said leather holder means and a third port of the other foot pedal operated valve being connected to the non-piston rod side of the second cylinders of said leather holder means through the respective solenoid operated plunger type direction control valve, a fourth port of each of said foot pedal operated valves being the exhaust port thereof.



Compl. specn. 15 pages,

Drgs. 6 sheets

Ind. Cl. 189 [LXVI(9)]

171189

Int. Cl. A 45 D, 19/16

AQUEOUS SHAMPOO COMPOSITIONS AND METHOD OF MAKING SAME.

Applicants : HINDUSTAN LEVER LTD., 165/166, BACKBAY RECLAMATION, BOMBAY-400 020, MAHARASHTRA, INDIA.

Inventors : (1) EUAN STUART REID, (2) ANDREW MALCOLM MURRAY.

Application No. 318/Bom/1990 filed Dec. 3, 1990.

U.K. Convention date Dec 4, 1989 and Jul 23, 1990.

Appropriate Office for Opposition Proceedings (Rule 4, Patent Rules, 1972) Patent Office, Bombay Branch.

## 9 Claims

1. An aqueous shampoo composition comprising, in addition to water.

(a) from 2 to 40% by weight of surfactant chosen from anionic, nonionic or amphoteric surfactants or mixture thereof;

(b) from 0.01 to 3% by weight of cationic conditioning polymer which is a cationic derivative of guar gum,

(c) from 0.1 to 10% weight of an insoluble, non-volatile silicone, present as emulsified particles with an average particle size of less than 2µm.

Compl. Specn. 23 pages

Drgs Nil

Ind. Cl.: 189 [LXVI(3)] 171190

Int. Cl.: A 61 k—7/02

CLEANING COMPOSITIONS SUITABLY FOR TOPICAL APPLICATION TO HUMAN SKIN TO REMOVE MAKE-UP.

Applicants: HINDUSTAN LEVER LIMITED, 165/166 BACKBAY RECLAMATION, BOMBAY-400 020, MAHARASHTRA, INDIA.

Inventors: DAVID ARTHUR ROSSER.

Application No. 338/Bom/90 filed—December 19, 1990.

U.K. Convention date—December 21, 1989.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, Bombay-13.

#### 11 Claims

1. A cleaning composition suitable for topical application to human skin to remove make-up, the composition comprising

(a) from 90 to 98% by weight of a concentrate comprising

(i) from 10 to 40% by weight of an oil having at least one ester group, in which the alkanoate moiety has from 8 to 22 carbon atoms;

(ii) from 2 to 20% by weight of nonionic emulsifier having an average HLB value of from 5 to 14, said emulsifier comprising an alkyl or alkaryl moiety having from 9 to 15 carbon atoms, and from 2 to 10 ethylene oxide units;

(iii) water; and

(b) from 2 to 10% by weight of a propellant.

Compl. Specn. 28 pages

Drg. Nil

Ind. Cl.: 141 D

171191

Int. Cl.: C22B 1/243

A PROCESS FOR THE PREPARATION OF COLD BONDED IRON ORE PELLETS.

Applicant: COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH, RAJI MARG, NEW DELHI-110001, INDIA, AN INDIAN REGISTERED BODY INCORPORATED UNDER THE REGISTRATION OF SOCIETIES ACT (ACT XXI OF 1860).

Inventors: DIPAK KUMAR DUTTA, SURAJIT GUPTA, DIPAK BORDOLOI & PRAKASH CHANDRA BORTHAKUR.

Application for Patent No. 317/Del/87 filed on 13 Apr 1987.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, New Delhi-110 005.

#### 5 Claims

A process for the preparation of cold bonded iron ore pellets which comprises mixing 88-90% iron ore fines with 5-10% granulated blast furnace slag along with 1-2% lime or 4.5% ordinary portland cement which may or may not contain gypsum in such a manner that total weight % of ingredients is 100, then nodulising the resultant mixture in the presence of water in a disc nodulizer and curing the resultant green pellets by known methods as here in described.

Compl. Specn. 11 pages

Ind. Cl.: 141 D.

171192

Int. Cl.: C22B 1/243

AN IMPROVED PROCESS FOR THE MANUFACTURE OF COLD BONDED IRON ORE PELLETS.

Applicant: COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH, RAJI MARG, NEW DELHI-110 001, INDIA, AN INDIAN REGISTERED BODY INCORPORATED UNDER THE REGISTRATION OF SOCIETIES ACT (ACT XXI OF 1860).

Inventors: SIBDAS BANDYOPADHYAY, SURAJIT GUPTA, DIPAK KUMAR DUTTA & DIPAK BORDOLOI.

Application for Patent No. 387/Del/87 filed on 05 May 1987.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, New Delhi-110 005.

#### 3 Claims

An improved process for the manufacture of cold bonded iron ore pellets which comprises mixing the 70-90% ore fines of —30 mesh size and 7-15% of finely ground portland cement clinker with constant spraying of water, heating the resultant green pellets at a temperature between 40 to 100°C, for a period of 2-8 hrs, steam curing the pellets at a pressure of 5-40 Psi for a period of 10-40 hrs and further heating the steam cured pellets to a temperature in the range of 50°C-200°C for a period of 2-24 hrs.

Compl. Specn. 17 pages

Ind. Cl.: 139 D

171193

Int. Cl.: C01B 3/00

A PROCESS FOR PRODUCING PURIFIED HYDROGEN IN A PRESSURE-SWING ADSORPTION PROCESS AND AN APPARATUS FOR PRODUCING THE SAME.

Applicant: UNION CARBIDE CORPORATION, MANUFACTURERS A CORPORATION ORGANISED AND EXISTING UNDER THE LAWS OF THE STATE OF NEW YORK, UNITED STATES OF AMERICA WITH OFFICES AT 39 OLD RIDGEBURY ROAD, DANBURY, STATE OF CONNECTICUT, 06817, UNITED STATES OF AMERICA.

Inventors: GEOFFREY QUANTON MILLER & ROBERT LAWTON GRAY.

Application for Patent No. 522/Del/87 filed on 30 Jun 1987.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, New Delhi-110 005.

#### 4 Claims

A process for producing purified hydrogen having more than 99% purity in a pressure-swing adsorption process comprising the following steps:

(a) adsorption—wherein a feed gas such as herein described is passed to an adsorber bed containing adsorbent at an elevated predetermined adsorption pressure to provide a product gas having a reduced concentration of impurities relative to the feed gas;

(b) cocurrent depressurization—wherein the pressure in the adsorber bed is reduced to a cocurrent depressurization pressure that is lower than said adsorption pressure to provide a cocurrent depressurization effluent that can be used for purging and/or repressurizing another adsorber bed;

(c) countercurrent depressurization—wherein the adsorber bed depressurized to a regeneration pressure that is lower than said cocurrent depressurization pressure to provide a tail gas stream comprising the impurities and

(d) purge—wherein the adsorber bed is purged with the product containing gas and repressurization to said adsorption pressure,

(e) sensing in a manner as herein described the concentration of the impurity in the cocurrent depressurization effluent, and

(f) taking a corrective action responsive to the sensed concentration said corrective action being at least one of varying the feed rate, varying the duration of the adsorption step, or varying the cocurrent depressurization pressure.

An apparatus for producing purified hydrogen in a pressure-swing adsorption process as claimed in any one of the preceding claims comprising

a sensing (32) means for sensing a characteristic of the kind such as herein described of the effluent from said cocurrent depressurization step;

, means (36, 48, 49) for taking a corrective action responsive to the sensed characteristic, said action being effective to vary the impurity concentration in the product gas in the direction necessary to obtain desired product purity;

a gas analyser for sensing a physical characteristic of the product gas stream; and

control means (134) for comparing the sensed physical characteristic of the product gas stream to a reference value and means

for establishing a target value for the sensed characteristic of the cocurrent depressurization effluent in response to the comparison of the sensed value of impurity in the product gas stream to the reference value.

Compl. Specn. 25 pages

Drgs. 4 sheets

Ind. Cl. : 141 D

171194

Int. Cl.<sup>9</sup> : C22B 1/243

A PROCESS FOR PRODUCING HIGH STRENGTH COLD BONDED ORE PELLETS OF ORE FINES HAVING A STRENGTH OF 200 KG.

Applicant : COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH, RAJ MARG, NEW DELHI-110001, INDIA, AN INDIAN REGISTERED BODY INCORPORATED UNDER THE REGISTRATION OF SOCIETIES ACT (ACT XXI OF 1860).

Inventors : SIBDAS BANDYOPADHYAY, DIPAK KUMAR DUTTA, SURAJIT GUPTA & DIPAK BORDOLOI.

Application for Patent No. 663/Del/87 filed on 31 Jul 1987.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, New Delhi-110 005.

## 7 Claims

A process for the preparation of high strength cold bonded pellets of ores fines having strength of 200 kgs pellet of 15—20 mm diameter which comprises pulverising ore fines, mixing the pulverised ore fines with 7-10% portland cement clinker and 0.4-2.8% of an accelerator such as here in described both by weight percentage of ore fines heating at a temperature of 40-90°C for 2-4 hrs, followed by steam curing at 5-40 psi for 3-10 hrs and further heating the pellets at a temperature in the range of 80-200°C for 2-40 hrs.

Compl. Specn. 19 pages

Ind. Cl. : 32 B.

171195

Int. Cl.<sup>4</sup> : B01D 53/14

A PROCESS FOR TREATMENT OF FEED GASES TO PRODUCE ACID-FREE FEED GASES SUCH AS FUELS AND SYNTHESIS GASES.

Applicant : UNION CARBIDE CORPORATION, MANUFACTURERS, A CORPORATION ORGANISED AND EXISTING UNDER THE LAWS OF THE STATE OF NEW YORK, UNITED STATES OF AMERICA WITH OFFICES AT 39 OLD RIDGEBURY ROAD, DANBURY, STATE OF CONNECTICUT, 06817, UNITED STATES OF AMERICA.

Inventor : BHADRA SAIN GROVER.

Application for Patent No. 673/Del/87 filed on 31 Jul 1987.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, New Delhi-110 005.

## 11 Claims

A process for the treatment of feed gases such as synthesis gases and raw gas mixtures as hereinbefore defined to remove therefrom acid gases and produce acid-free feed gases which comprises contacting the feed gas with and aqueous alkaline scrubbing solution of the kind such as herein described for absorbing said acid gases from the feed gas to form a rich scrubbing solution, and subjecting it to a regeneration step to desorb therefrom the said acid gases to form a lean solution said scrubbing solution being continuously recycled between said absorbing step and said regeneration step characterised in that said regeneration step comprises subjecting a first portion of the rich scrubbing solution to a steam stripping step to form a lean solution which if desired is flashed, to remove low pressure steam therefrom and then is recycled to the absorption step, and a vapor stream containing the removed acid gases and steam; subjecting the second portion of the rich scrubbing solution to at least a two stage flashing step wherein in the first stage the said rich scrubbing solution is flashed to remove acid gases and steam therefrom to form a partially regenerated solution and in the second stage the partially regenerated solution is subjected to a gas stripping step by counter-currently contacting with the vapor stream obtained from the steam stripping step, to remove acid gases and steam from the partially regenerated solution; and heating the partially regenerated solution by heat transferred from the lean scrubbing solution obtained from the steam stripping step, thereby removing additional acid gases from the partially regenerated solution by forming steam

Compl. Specn. 31 pages

Drgs. 2 sheets

Ind. Cl.: 24 E (LV)

171196

Int. Cl.: F 16 D 49/20.

**AUTOMATIC ADJUSTMENT SPACER FOR A DRUM BRAKE.**

Applicant: BENDIX FRANCE, A FRENCH COMPANY, OF 126, RUE DE STALINGRAD, 93700 DRANCY, FRANCE.

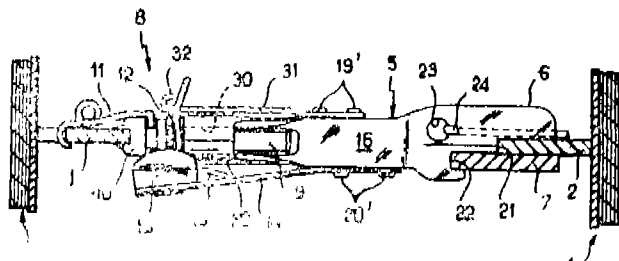
Inventors: ERIC MICHOUX, MICHEL DENREE AND JEAN MOREAU.

Application for Patent No. 716/DEL/87 filed on 18-8-87.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, New Delhi-5.

**5 Claims**

Automatic adjustment spacer for a drum brake for being mounted between two brake shoes, (3, 4), comprising a spacer body (5) and a screw/nut system (8), said screw (9) being received in a cylindrical receptacle (30) of the spacer body and the nut (12) interacting selectively with a pawl (13) integral with a metal blade (14) mounted on the spacer body (5), the latter comprising an elongate main part of substantially rectangular cross section (16) and a widened end head (29), the cylindrical receptacle (30) being formed longitudinally in said widened end head the spacer body (5) being of a metal plate having two transverse end wings (25, 25') rolled up, with bending, with their lateral margins (26, 26'), contiguous, to constitute said widened end head (29).



Compl. Specn. 8 pages.

Drwg. 1 sheet.

Ind. Cl.: 32 E IX (1).

171197

Int. Cl.: C 08 F/114/06.

**PROCESS FOR PRODUCING POROUS, SKINLESS, AGGLOMERATED POLYVINYL RESIN PARTICLES.**

Applicant: THE B.F. GOODRICH COMPANY, A NEW YORK CORPORATION, OF 3925 EMBASSY PARKWAY, AKRON, OHIO 44313, UNITED STATES OF AMERICA.

Inventor: ROMAN BOHDAN HAWRYLKO.

Application for Patent No. 718/DEL/87 filed on 18-8-1987.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, New Delhi-5.

**9 Claims**

A process for producing porous, skinless, agglomerated polyvinyl resin particles comprising polymerizing vinyl monomer in the presence of at least one ion sensitive primary dispersant of the kind such as herein described in the range of from 0.01 parts by weight to 0.1 parts by weight to 100 parts by weight of said monomer, said primary dispersant being present for thickening water to form monomer droplets, and at least one secondary dispersant of the kind such as herein described for increasing the colloidal stability thereof, adding 1 per cent to 5 per cent of an ionic material of the kind such as herein described to said reaction mixture so that a substantial amount of said primary dispersant is desorbed from said monomer droplets to produce skinless, agglomerated, porous polyvinyl resin in particulate form.

Compl. Specn. 44 pages.

Drwg. 6 sheets

Ind. Cl.: 206 F LXII

171198

Int. Cl.: G 06 F 3/00, 13/00.

**DIGITAL DATA PROCESSING SYSTEM.**

Applicant: DIGITAL EQUIPMENT CORPORATION, OF 146 MAIN STREET MAYNARD, MASSACHUSETTS 01754 UNITED STATES OF AMERICA, A CORPORATION ORGANISED UNDER THE LAWS OF THE STATE OF MASSACHUSETTS, UNITED STATES OF AMERICA.

Inventor: PAUL IRWIN RUBINFELD.

Application for Patent No. 733/DEL/87 filed on 21st August, 1987.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, New Delhi-110 005.

**9 Claims**

A digital data processing system having an information store (11) for storing instructions, and a central processing unit (30), connected to the information store (11) by a bus (13) that has multiple lines, for retrieving instructions to be executed,

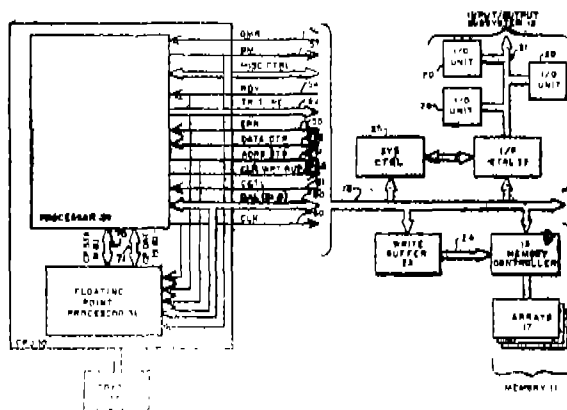
said central processing unit (30) comprising:

(i) an operation code transfer circuit (272) for transmitting to auxiliary processor unit (31) an operation code from a retrieved instruction of a selected type; and

(ii) an operand transfer means (271) for processing instructions such as an operand specifier, the operand transfer means (271) comprising:

(a) an operand locator (40) responsive to an operand specifier for identifying to said auxiliary processor unit (31) a source of an operand identified by said operand specifier, and

(b) an operand transfer initiating circuit (271, 273) for initiating the transfer of an operand to the auxiliary processor unit (31); and said auxiliary processor unit (31) being connected to at least some of the lines of the bus (13) for executing instructions of selected types, at least some of said instructions including a said operation code and a said operand specifier; said auxiliary processor unit (31) having an operand receiver responsive to operand source information from said operand locator (40) and the initiating of an operand transfer by said operand transfer initiating circuit for receiving an operand.



Compl. Specn. 63 pages.

Drwg. 4 sheets

Ind. Cl.: 189 LXVI (9)

171199

Int. Cl.: A 45 D 37/00, A 61 K 7/16.

**A SACHET FOR HOLDING A DENTIFRICE.**

Applicant: COLGATE-PALMOLIV COMPANY, A CORPORATION ORGANISED UNDER THE LAWS OF



THE STATE OF DELAWARE, UNITED STATES OF AMERICA, OF 300 PARK AVENUE, NEW YORK, NEW YORK 10022, UNITED STATES OF AMERICA.

Inventors: DORINDA ANN SPARACIO, STEVEN WADE FISHER AND SANDRA LEE SCHELM.

Application for Patent No. 743/DFL/87 filed on 24th August 1987.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, New Delhi-110 005.

#### 4 Claims

A sachet comprising a heat-sealed laminated package for holding therein a dentifrice of an amount of 7-12 cc and the ratio of the inner surface of said laminated package to the volume of said dentifrice being from 16:1 to 9:1, said package having an upper layer made of a flexible plastic sheeting of the kind such as herein described and an inner layer made of acrylonitrile methyl acrylate copolymer modified with butadiene acrylonitrile copolymer, said upper and inner layers being adhesively laminated to one another.

Compl. Specn. 16 pages.

Drwg. sheets Nil.

Ind. Cl.: 32 E IX (1).

171260

Int. Cl.: C 08 F 114/06.

PROCESS FOR PRODUCING VINYL CHLORIDE RESIN HAVING LOW GEL CONTENT.

Applicant: THE B.F. GOODRICH COMPANY, A NEW YORK CORPORATION, OF 3925 EMBASSY PARKWAY, AKRON, OHIO 44313, UNITED STATES OF AMERICA.

Inventor: YUNG-CHIN YANG.

Application for Patent No. 749/DEL/87 filed on 25th August 1987.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office Branch, New Delhi-110 005.

#### 6 Claims

A process for producing a vinyl chloride resin having a low gel content, comprising adding at least one vinyl chloride monomer of the kind such as herein described to a reaction vessel coated with an aromatic compound of the kind such as herein described for inhibiting polymer build up on the internal surface of said reaction vessel, adding to said vessel a primary dispersant of the kind such as herein described having 70 to 98 mole percent hydrolized disper-

sant for suspending said monomers during polymerization and a modified cellulose ether dispersant upto 80 per cent by weight, and adding an amount of 10 to 60 mole percent hydrolized secondary dispersant of the kind such as herein described having 5 per cent by weight or less of an organic solvent such as methanol and polymerizing to produce a vinyl chloride resin having a low gel content upon polymerization, and repeating said process and producing a low gel content vinyl chloride resin in a continuous manner, not requiring cleaning of said reaction vessel.

Compl. Specn. 26 pages.

Drwg. 1 sheet

Ind. Cl.: 98 G

171201

Int. Cl.: F 28 D 9/00.

"HEAT TRANSFER ELEMENT ASSEMBLY."

Applicant: THE AIR PREHEATER COMPANY, INC., OF ANDOVER ROAD WELLSVILLE, NEW YORK 14895, UNITED STATES OF AMERICA.

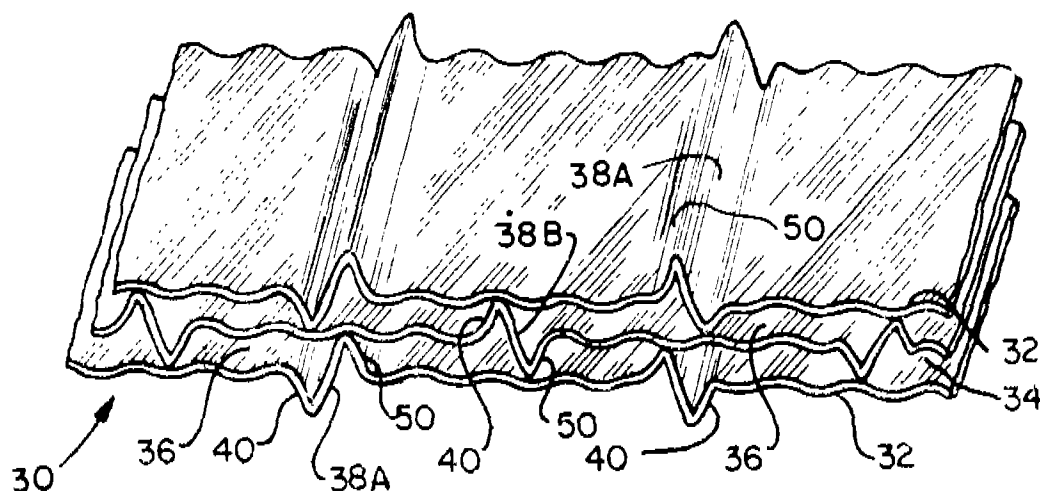
Inventor: JAMES ALAN GROVES.

Application No. 112/Cal/88 filed on February 08, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patent Rules 1972) Patent Office Calcutta.

#### 9 Claims

An assembly of heat transfer element for a heat exchanger comprising a plurality of heat transfer plates stacked in spaced relationship thereby providing a plurality of passageways between adjacent plates for flowing a heat exchange fluid therebetween, each of said plates having spacers formed therein at spaced intervals so as to maintain a predetermined distance between adjacent plates, said spacers comprising bilobed folds having first and second lobes projecting outwardly from the plates, each lobe having an outermost surface for contacting an adjacent plate, and a sloping web portion extending between the outermost surface of the first and second lobes, a first portion of said folds in each of said plates having their first lobe projecting outwardly from said plate in a first direction and their second lobe projecting outwardly from said plate in a second direction opposite to the first direction, and a second portion of said folds in said plate having their first lobe projecting outwardly from said plate in the second direction and their second lobe projecting outwardly from said plate in the first direction, the web portions of said second portion of said folds therev having a pitch opposite to the pitch of the web portions of said first portion of said folds, said first portion of said folds comprising at least one-half of the total number of folds in said plate and said second portion of said folds comprising no more than one-half of the total number of total number of folds in said plate.



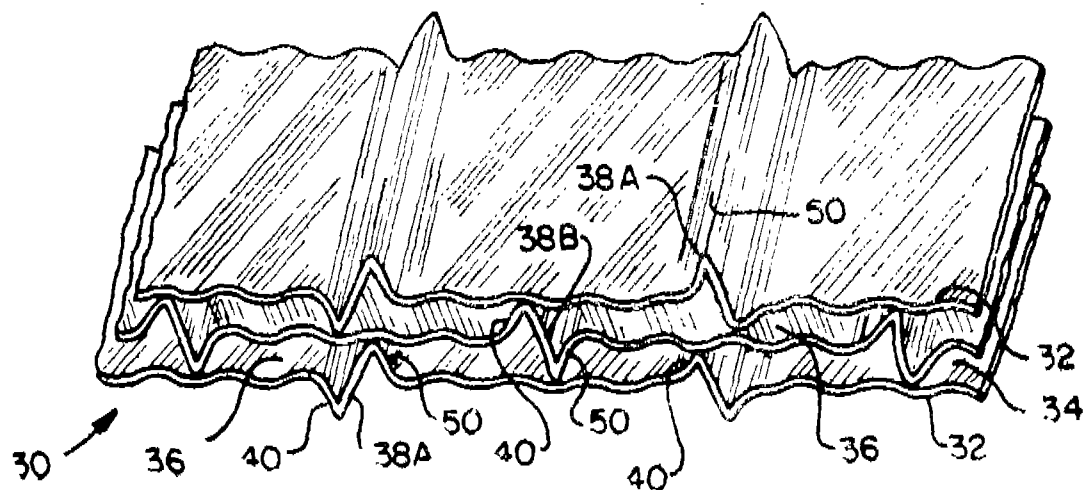


Fig. 1

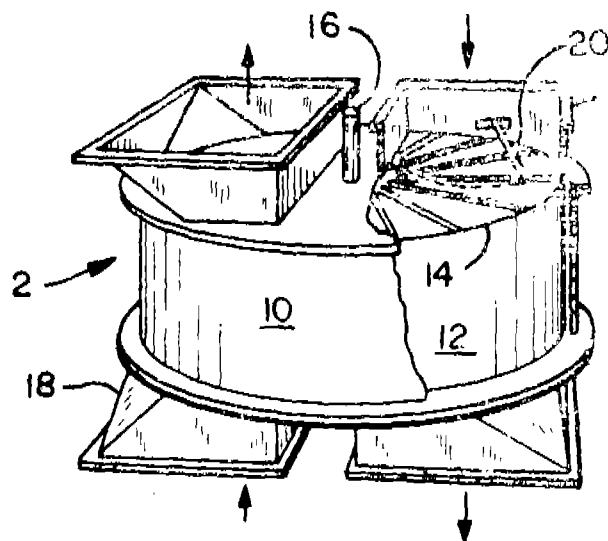


Fig. 2

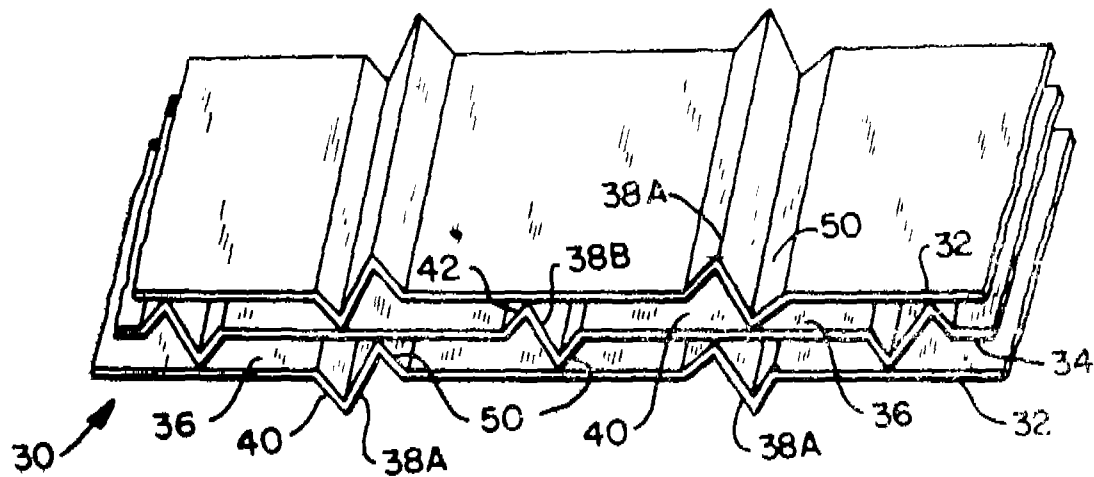


Fig. 3

Cl.: 128 F G,

171202

6 Claims

Int. Cl.: A 61 B 1/00, 10/00.

"DEVICE FOR SIMULTANEOUSLY DETECTING OR QUANTITATING A PLURALITY OF ANALYTES IN A BIOLOGICAL FLUID SAMPLE."

Applicant: IN VITRO TECHNOLOGIES, INC. OF P.O. BOX 111535 ARLINGTON, TEXAS 76007 USA.

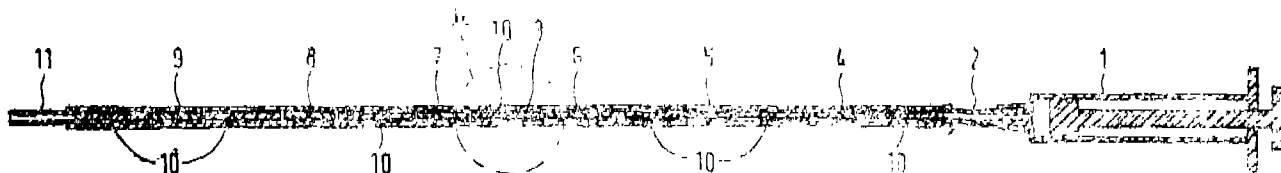
Inventor: KENNETH ALEXANDER KELLY.

Application No. 5411/Cal/88 filed on July 01, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office, Calcutta.

A device for simultaneously detecting or quantitating a plurality of analytes in a biological fluid sample which device comprises:

- (a) a capillary tubing,
- (b) a plurality of water-insoluble reactive segments located in said capillary tubing, each segment having different immunochemical reagents attached to its surface,
- (c) nonreactive water-insoluble segments located in said capillary tubing for separating said reactive segments from one another, with said reactive and nonreactive segments alternating serially in said capillary tubing,
- (d) means of attachment at both ends of the capillary tubing which serve to retain said segments within said capillary tubing, each of said means of attachment having a bore in fluid connection with said capillary tubing, and
- (e) means for causing fluids to pass into said capillary tubing.



Compl. Specn. 30 pages.

Drwns. 1 sheet)

Cl.: 98 H, 146 E.

171203

Int. Cl.: B 01 J 19/00, G 01 K 5/00.

"TEMPERATURE MONITORING APPARATUS FOR USE WITH A REACTOR."

Applicant: TEXACO DEVELOPMENT CORPORATION, OF 2000 WESTCHESTER AVENUE, WHITE PLAINS, NEW YORK 10650, UNITED STATES OF AMERICA.

Inventors: (1) MITRI SALIM NAJJAR, (2) THOMAS FREDERICK LEININGER.

Application No. 741/Cal/88 filed on September 05, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office, Calcutta.

8 Claims

Temperature monitoring apparatus for use with a reactor (10) having a combustion chamber (12) in which a carbonaceous fuel is to be gasified at a high temperature to produce a usable gas and a residual slag having an amount of free metal therein, which combustion chamber (12) is defined by a refractory lined wall (8, 9) having an access passage (16) which transverse said insulated wall;

said temperature monitoring apparatus being characterized by:

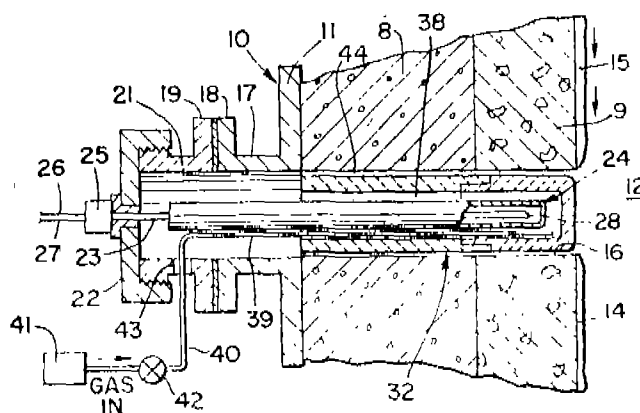
a thermal well (32) removably registrable in said access passage (16) to define an annulus (44) therewith, and having a closed end wall (36) disposed contiguous with the combustion chamber wall (14);

said thermal well (32) comprising discrete first and second cylindrical segments (33, 34), each being formed of a refractory material;

means (17, 21, 22, 25) forming a removable gas tight closure at said reactor wall about the open end of the thermal well (32);

a thermocouple (24) removably received in said thermal well (32) and having thermocouple wires (26, 27) which pass through said gas tight closure (17, 21, 22, 25) and a gas conduit;

means (39, 40) communicated with a pressurized source (41) of purge gas and opening into said thermal well (32) to envelop said thermocouple (24) with a flow of purge gas which discharges into said combustion chamber (12).



Compl. Specn. 16 pages.

Drwns. 1 sheet.

Cl. 98 I

171204

11 Claims

Int. Cl.<sup>4</sup> : F 24 J 2/00; 2/02, 2/04, 2/06.**"LIGHTWEIGHT CONSTRUCTIONAL ELEMENT OF SANDWICH STRUCTURE."**

Applicant &amp; Inventor: HELLMUTH COSTARD OF SEGITZDAMM 2-4, D-1000 BERLIN 61, WEST GERMANY.

Application No. 828/Cal/88 filed on October 05, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office, Calcutta.

## 12 Claims

Lightweight constructional element in sandwich structure comprising two cover plates (13 & 14) which are held a distance apart by a honeycomb structure, characterized in that the honeycomb structure is formed from essentially cylindrical cans (11) of which the axes (15) are perpendicular to the cover plates (13, 14).

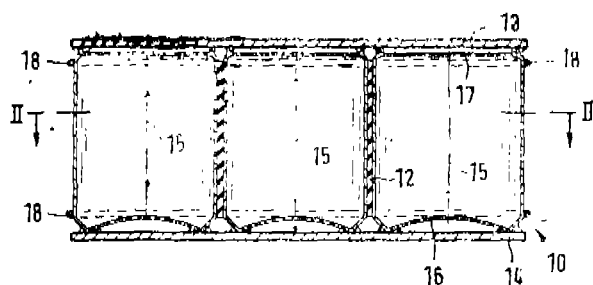


Fig. 1

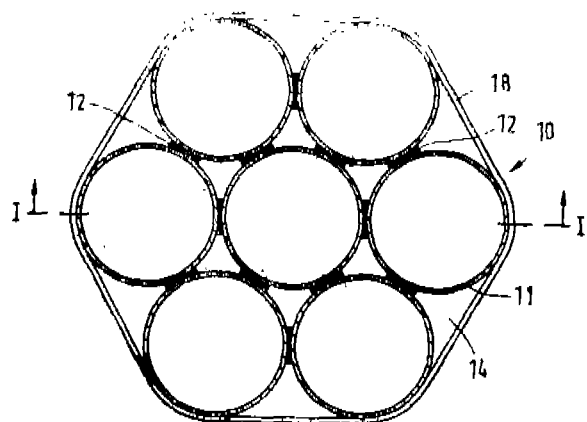


Fig. 2

Compl. Specn. 9 pages.

Drwg. 2 sheets.

Cl.: 146 D-1

171205

Int. Cl.: H 04 B 9/00, G 02 B 6/26.

**"OPTICAL COMPONENT FOR FIBER-OPTIC TRANSMISSION SYSTEMS."**

Applicant: KRONE AKTIENGESELLSCHAFT, OF BEESKOWDAMM 3-11, D-1000 BERLIN 37, WEST GERMANY.

Inventor: GERD MROZYNSKI.

Application No. 903/Cal/88 filed on October 31, 1988.

Appropriate Office for Opposition Proceedings (Rule 4, Patents Rules, 1972) Patent Office, Calcutta.

An optical component for two or more optical fibers, e.g. attenuation element, filter, power divider or the like, comprising at least two supports for the fibers and an adjusting member movable therebetween, characterized by that the supports are formed as guide plates (10, 11; 20, 21;...) and that the adjusting member is formed as adjustment plate (12; 22;...) of dielectric material, that the adjustment plate (12; 22;...) is movable in a guide space (17; 27;...) between the guide plates (10, 11; 20, 21;...), and that at least one guide plate (10, 11; 20, 21;...) is provided with inner or outer electrode surfaces (15, 16; 25, 26;...) building-up at least one dielectric field, said electrode surfaces (15, 16; 25, 26;...) being connected to an adjustable voltage supply.

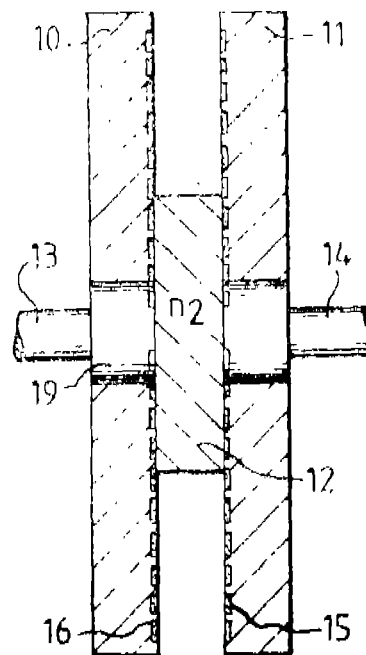


Fig. 1

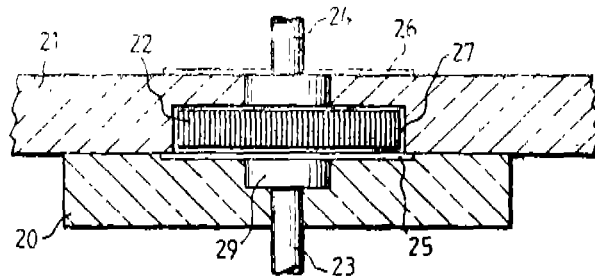


Fig. 2

Compl. Specn. 13 pages.

Drwg. 5 sheets.

Cl. 127

171206

Int. Cl. B 06 B 1/00.

**"VIBRATION GENERATOR"**

Applicants : (1) KRAMATORSKY INDUSTRIALNY INSTITUT, OF KRAMATORSK, ULITS A SHKADINOVA, 76 USSR. (2) PROIZVODSTVENNOE OBIEDINENIE "NEVSKY ZAVOD" IMENI V.I. LENINA OF LENINGRAD, PROSPEKT OBUKHOVSKOI OBORONY, 51, USSR. (3) PROIZVODSTVENNOE OBIEDINENIE "NOVOKRAMATORSKY MASHINOSTROITELNY ZAVOD" OF KRAMATORSK, USSR.

Inventors : (1) ALEXANDR IOSIFOVICH DRYGA,  
(2) VYACHESLAV MATVEEVICH ALEXEEV, (3)  
SERGEI ALEXEEVICH POLOVOI.

Application No. 5/Cal/89 filed on January 02, 1989.

Appropriate office for opposition proceeding (Rule 4, Patent Rule 1972) Patent Office, Calcutta.

### 5 Claims

A Vibration generator comprising a drive shaft mounting unbalance weights, which are a clearance fit on the shaft and are turnable with respect to each other, and a mechanism for adjusting their mutual position, the adjusting mechanism being made in the form of two coaxially arranged cylinders carrying the unbalanced weights and joined together by joining members provided on their engaging surfaces, one of the cylinders being rigidly mounted on the drive shaft, while the other cylinder is mounted on the drive shaft, while the other cylinder is mounted so as to be turnable and axially traversable.

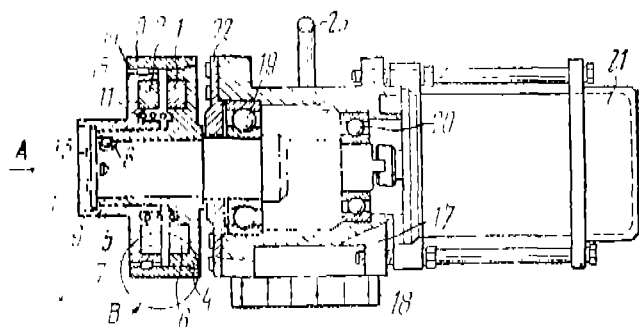


Fig. 1

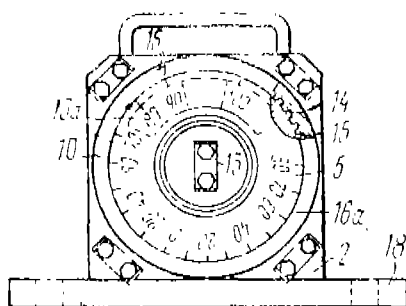


Fig. 2

Compl. specn. 19 pages.

Drgsn. 3 sheets

Cl. 141 A.

171207

Int. Cl. C 22 B 1/24.

"A PROCESS FOR MANUFACTURE OF COKE BRIQUETTES WITH MILL SCALE FOR DESILICONISING OF IRON PRODUCED IN BLAST FURNACE."  
Applicant : DROLIA FUELS PVT. LTD. OF 26, BURTO-  
LLA STREET, CALCUTTA-700 007 (WEST BENGAL)  
INDIA.

Inventors : (1) AWADH KUMAR DROLIA & (2) DR.  
S. DHARANI PALAN.

Application No. 26/Cal/1989 filed on January 10, 1989.

Appropriate office for opposition proceedings (Rule 4, Patent Rule 1972) Patent Office, Calcutta.

### 4 Claims.

A process for manufacturing coke briquettes containing mill scale iron fines for use in blast furnaces comprising bonding iron fines with bonding agents and briquetting same characterized in

(i) preparing a mix of crushed coke of size between 0—3mm and mill scale in the range of 1—85 and 99 to 15 parts by weight respectively;

(ii) adding to said mix bitumen as binder in predetermined proportions in the molten state of said binder to obtain a mix of the iron fines, coke fines and binder;

(iii) maintaining the mix obtained in step (ii) above to a temperature of atleast 60°C;

(iv) thereafter heating the thus prepared mixture to a temperature range of 80 -90°C to obtain a uniform mix;

(v) subsequently cooling the hot mix for forming green briquettes in briquetting press;

(vi) curing said green briquettes by heating preferably in the temperature range of 300-400°C and cooling to obtain final briquettes of desired strength.

Compl. specn. 1 pa2gs.

Drgns.1 sheet.

Cl. 153

171208

Int. Cl. B 24 B 35/00.

### "SUPERFINISHING MACHINE USING LAPPING FILM"

Applicant : KABUSHIKI KAISHA NISSHIN SEISAKU-  
SHO OF 22, AZACHITOSE, MINEYAMACHO, NAKAGAN  
KYOTO PREFECTURE, JAPAN.

Inventors : (1) MITIO KINUGAWA (2) RYOJI INOUE.

Application No. 46/Cal/89 filed on January 17, 1989.

Appropriate office for opposition proceedings (Rule 4, Patent Rule 1972) Patent Office, Calcutta.

### 3 Claims

A superfinishing machine using lapping film having a grain surface, on the surface to be polished 30a of the work 30 which is rotated or turned reciprocally, comprising :

a pair of take-up reels 2, 3 for lapping film rotatably held through rotary shafts 4, 5;

follower friction wheels 8, 9 attached to one end of rotary shafts 4, 5;

an oscillation member 11 oscillatably held by way of a pivot 10;

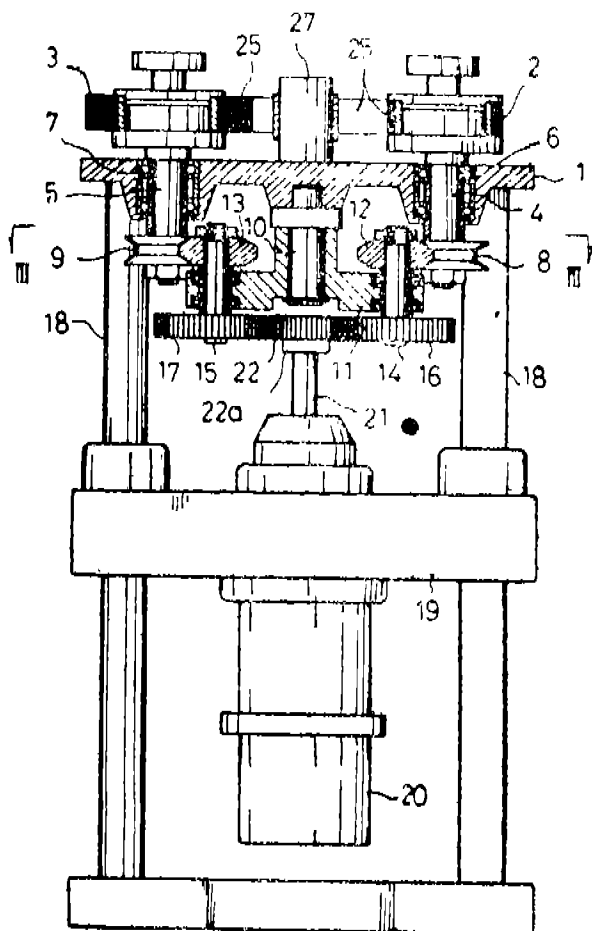
driving friction wheels 12, 13 rotatably disposed at both ends of the oscillation member 11, being frictionally engageable with the follower friction wheels 8, 9;

driving means for rotating and driving the driving friction wheels 12, 13;

driving changeover means for detecting the terminal end of lapping film 25 taken up on the take-up reels 2, 3, and oscillating the oscillation member 11 between two positions;

braking means for braking the follower friction wheels 8, 9 becoming the driven side, in cooperation with the driving changeover means; and

pressing means for pressing the lapping film 25 against the surface to be polished 30a to a work 30.



Compl. specn. 21 pages

Drgns. 6 sheets.

Cl. 190 B

171209

Int. Cl. F 02 C, 7/00

**"A METHOD FOR PROTECTING TURBINE BLADES OF A GAS TURBINE FROM THE DELETERIOUS EFFECTS OF A VANADIUM CONTAINED IN THE FUEL EMPLOYED IN THE GAS".**

Applicant : SIEMENS AKTIENGESellschaft OF WITTELSBACHERPLATZ 2, D-8000, MUNCHEN 2, WEST GERMANY.

Inventor : NORBERT CZECH.

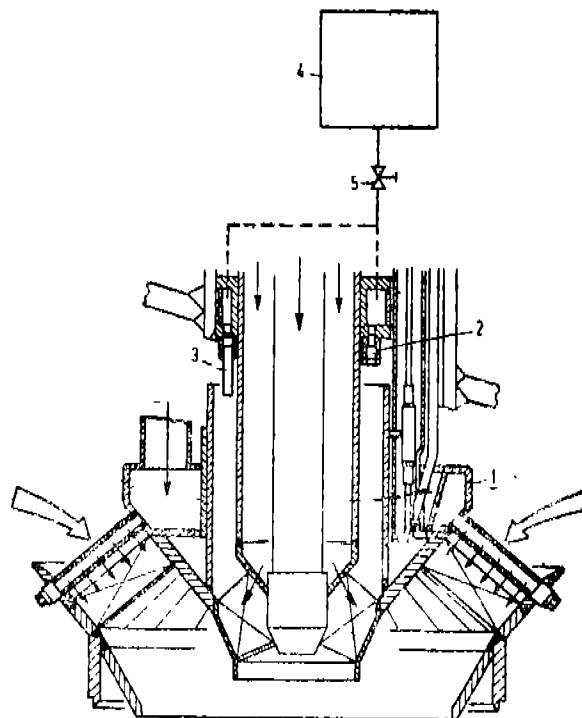
Application No. 41/Cal/89, filed on March 29, 1989.

Appropriate office for opposition proceedings (Rule 4, Patent Rules 1972) Patent Office, Calcutta.

2 Claims.

A method for protecting turbine blades of a gas turbine from the deleterious effects of vanadium contained in the fuel employed in the gas turbine wherein magnesium compound as herein described is employed to form magnesium vanadate compound thereby binding the vanadium and preventing it from forming corrosive depositing on the blade surface, characterized in that the magnesium compound is injected in the form of a spray with water and/or steam in the combustion zone, the quantity of magnesium compound injected into the combustion zone being depended on the amount of vanadium present in the fuel in the combustion

zone and being controlled by a metering means for feeding magnesium compound to the water and/or steam.



Compl. specn. 9 pages.

Drgns. One sheet

Cl. 27 O.

171210

Int. Cl. F 16 L 59/00.

**"HEAT SHIELD ARRANGEMENT".**

Applicant : SIEMENS AKTIENGESellschaft, OF WITTELSBACHERPLATZ 2, D-8000 MUNCHEN 2, WEST GERMANY.

Inventor : DR. BERNARD BECKER.

Application No. 431/Cal-89 filed on June 05, 1989.

Appropriate office for opposition proceedings (Rule 4, Patent Rule 1972) Patent Office, Calcutta.

19 Claims

A heat shield arrangement for a structure that contacts hot fluid, comprising surface-covering heat shield elements adapted to be anchored adjacent to each other on the structure with expansion gaps being left between adjacent elements each heat shield element comprising a mushroom-like cap section and a shaft section, the cap section being a flat or curved polygon with straight or curved edges, and the space between the structure and the heat shield elements being such that a fluid can be admitted through one or more channels in the structure wherein :

(a) the heat shield elements comprise ceramic material;

(b) the shaft section of each heat shield element has an enlarged portion on the end away from the cap section at which enlarged portion the heat shield element can be attached by means of a clamp to the structure, the heat shield element being additionally supported against the structure, and

(c) the clamps comprise thermally stable material having an elasticity higher or substantially higher than that of the material of the heat shield elements, and the shape of the

clamps is such that they act as springs in fixing the heat shield elements to the structure thereby determining the force

with which the heat shield elements are retained on the structure.

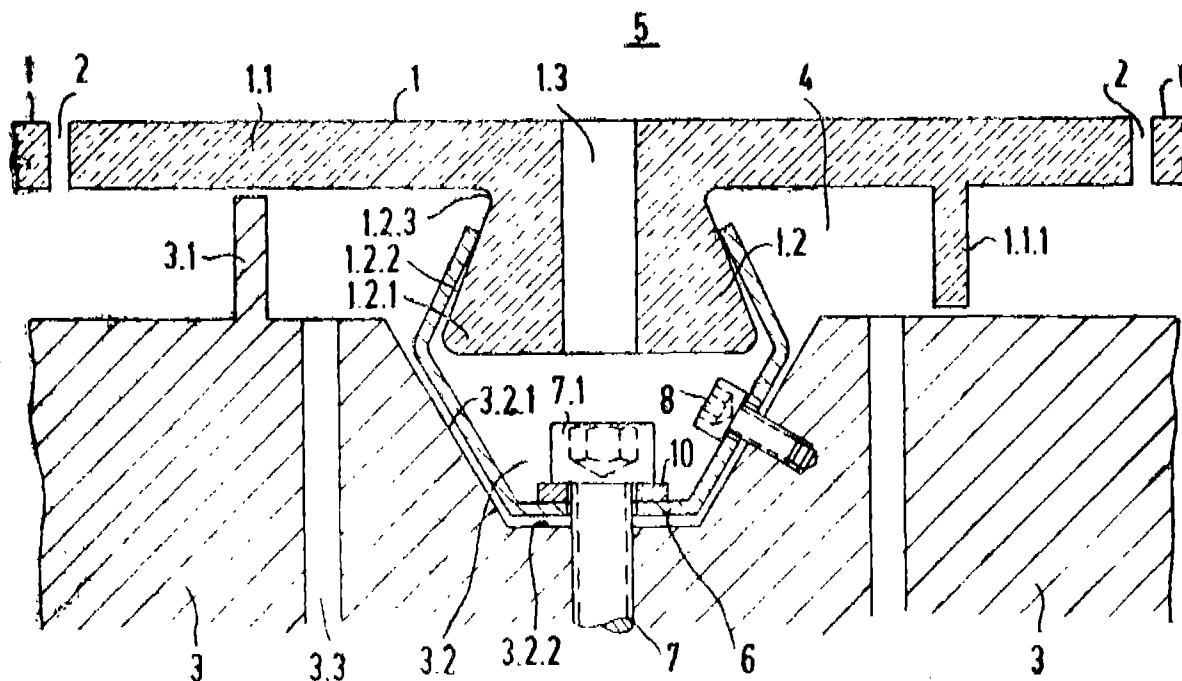


Fig. 1

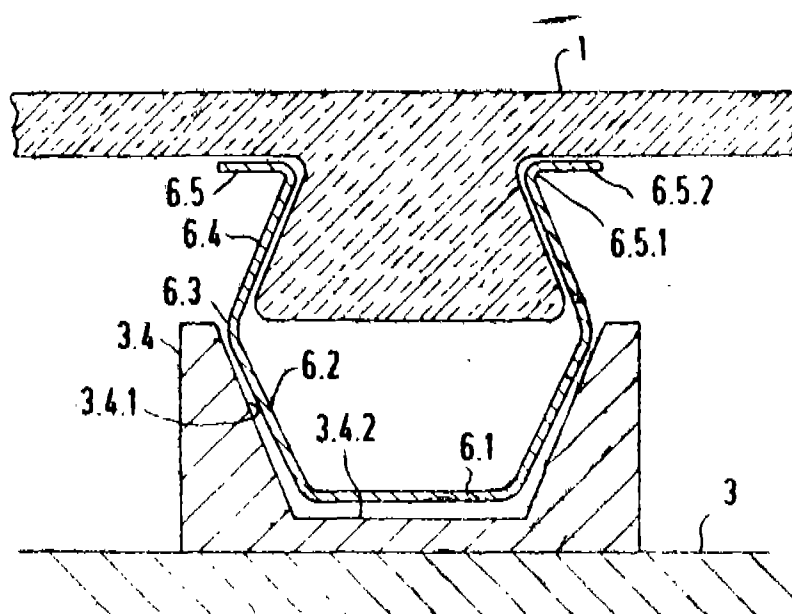


Fig. 2

Cl. 40 H

171211

Int. Cl. B 01 J 20/00.

"ACID GAS ABSORBENT COMPOSITION USEFUL FOR THE SEPARATION OF ACID GASES CONTAINED IN NATURAL GAS, SYNTHETIC GAS AND COKE OVEN GAS".

Applicant : UNION CARBIDE CHEMICALS AND PLASTICS COMPANY INC. OF 39 OLD RIDGEBURY ROAD, DANBURY CONNECTICUT 06817-0001, U.S.A.

Inventors : (1) YUKIO KADONO. (2) YOSHIKAI URANO. (3) FUMIO WATANABE.

Application No. 927/Cal/88 filed on November 04, 1988.

Appropriate office for opposition proceedings, (Rule 4, Patent Rules 1972) Patent Office, Calcutta.

7 claims.

An acid gas absorbent composition, for using to separate acid gases contained in natural gas, synthetic gas and coke oven gas, comprising a diethylene glycol dialkyl ether represented by the general formula I :



wherein  $R^1$  and  $R^2$  are independently an alkyl group of 1 to 4 carbon atoms, and a polyethylene glycol dialkyl ether represented by the general formula II :



wherein  $R^3$  and  $R^4$  are independently an alkyl group of 1 to 4 carbon atoms and  $n$  is an integer in the range of 3 to 8, wherein the molar ratio of said diethylene glycol dialkyl ether to said polyethylene glycol dialkyl ether is in the range of 95:5 to 60:40.

Compl. specn. 23 pages.

Drgns. 10 sheets.

Cl. 88 A.

171212

Int. Cl. C 01 B 3/00.

"AN IMPROVED PROCESS FOR PRODUCING SYNTHESIS AND COMBUSTION GASES".

Applicant : KRUPP KOPPERS GMBH. OF ALTENDORFER STRASSE 120, D 4300 ESSEN 1, WEST GERMANY.

Inventors : (1) HANS-RICHARD BAUMANN. (2) MICHAEL KUHN. (3) ULRICH MEISL.

Application No. 1014/Cal/88 filed on December 07, 1988.

Appropriate Office for opposition proceedings (Rule 4, Patent Rules 1972) Patent Office, Calcutta.

8 claims.

An improved process for producing synthesis and combustion gases, the step of conveying finely granulated to powdered fuel into a high-pressure gassification reactor, in which the fuel to be gassified is pneumatically conveyed from the dressing plant into a stock vessel provided with a filter and passes from there by gravity flow into a transfer vessel, from which it is fed via a metering vessel to the burners of the gassification reactor, the transfer vessel being alternately pressurized and let down again, and a combustible gas being used for the pressurising of the transfer vessel and metering

vessel and also for feeding the fuel to the burners of the gassification reactor, the improvement where in comprises adjusting the volumetric flow of combustible gas fed to the transfer vessel and metering vessel exclusively to the requirement for building up and maintaining the pressure and for feeding the fuel to the gassification reactor, such that there is no loosening, similar to a fluidised bed, of the bulk fuel in the transfer vessel and metering vessel.

Compl. specn. 15 pages.

Drgns. 2 sheets.

Cl. 101 F

171213.

Int. Cl. E 02 B 1/00.

"CONTROL SYSTEM FOR LOAD-SENSING HYDRAULIC DRIVE CIRCUIT".

Applicant : HITACHI CONSTRUCTION MACHINERY CO. LTD. OF 6-2, OHTEMACHI-2-CHOME, CHIYODAKU, TOKYO, JAPAN.

Inventors : (1) EIKI IZUMI, (2) YASUO TANAKA, (3) HIROSHI WATANABE, (4) KUNIAKI YOSHIDA, (5) TOICHI HIRATA.

Application No. 79/Cal/89 filed on January 25, 1989.

Appropriate office for opposition proceedings (Rule 4, Patent Office 1972) Patent Office, Calcutta.

11 Claims.

A control system for a load-sensing hydraulic drive circuit comprising; at least one hydraulic pump; a plurality of hydraulic fluid delivered from said hydraulic pump; and a pressure compensated flow control valve connected between said pump and each of said actuators, for controlling a flow rate of the fluid supplied to each said actuator in response to an operation signal from control means, wherein said control system comprises :

first detection means for detecting a differential pressure between the delivery pressure of said pump and the maximum load pressure among said plurality of hydraulic actuators ;

second detection means for detecting the delivery pressure of said pump;

first means for calculating, based on a differential pressure signal from said first detection means, a differential pressure target delivery amount  $Q_p$  of said pump to hold said differential pressure constant;

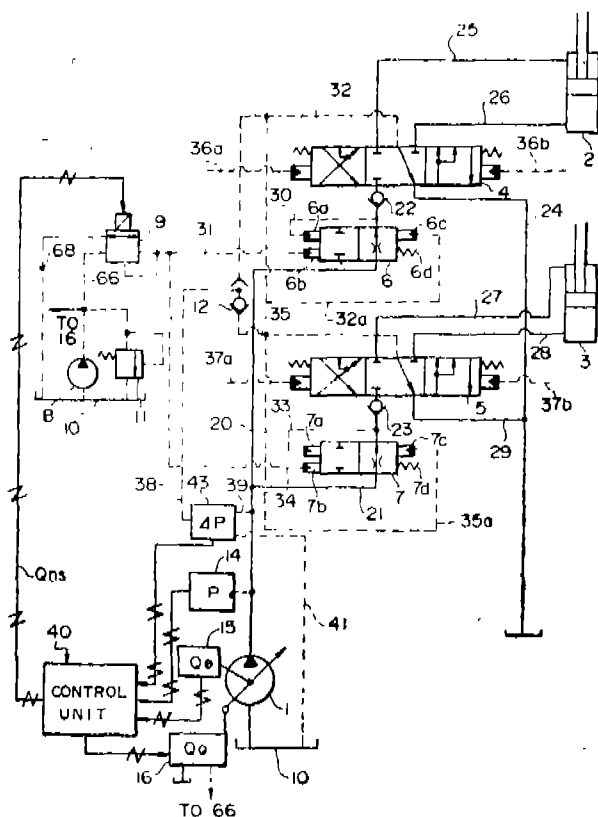
second means for calculating an input limiting target delivery amount  $Q_T$  of said pump based on at least a pressure signal from said second detection means and an input limiting function preset for said pump;

third means for selecting one of said differential pressure target delivery amount  $Q_p$  and said input limiting target delivery amount  $Q_T$  as a delivery amount target value  $Q_0$  for said pump, and then controlling the delivery amount of said pump such that the delivery amount does not exceed above said input limiting target delivery amount  $Q_T$  ; and

fourth means for calculating a compensation value  $Q_{ns}$  to limit a total consumable flow rate for said actuator based on at least said input limiting target delivery amount  $Q_T$  and said differential pressure target delivery amount  $Q_p$ , when said input limiting target delivery amount  $Q_T$  is select-



ed by said third means, and then controlling said pressure compensated flow control valve based on said compensation value Qns.



(Compl. Spec. 84 pages.

Drwg. 17 sheets.)

Cl. 35 E.

171214

Int. Cl. C 04 B 35/00, B 32 B 18/00.

"A METHOD FOR PRODUCING A PROTECTIVE LAYER ON A CERAMIC BODY AND A METHOD OF USING A CERAMIC BODY."

Applicant : LANXIDE SECHNOLOGY COMPANY, LP. OF TRALEE INDUSTRIAL PARK NEWARK, DELAWARE 19711. U. S. A.

Inventors : (1) VIRGIL IRICK (JR.) (2) JACK ANDREW KUSZYK, (3) DENNIS JAMES LANDINI.

Application No. 117/Ca/1989, filed on February 08, 1989.

Appropriate office for opposition proceedings (Rule 4, Patent Rule 1972) Patent Office, Calcutta.

#### 4 Claims

A method for producing a self-supporting ceramic body comprising :

(a) providing a parent metal body, such as herein described;

(b) heating said parent metal body to a temperature above its melting point but below the melting point of its oxidation reaction product, such as herein described, to form a body of molten parent metal and, at said temperature,

(1) reacting the molten parent metal, such as herein described with an oxidant, such as herein described, to form an oxidation reaction product, such as herein described, of the parent metal,

4-197 GI/92

(2) maintaining at least a portion of said oxidation reaction product in contact with and between said body of molten metal and said oxidant, to progressively draw molten metal from said body of molten metal through the oxidation reaction product at an interface between the oxidant and previously formed oxidation reaction product, and

(3) continuing said reacting for a time sufficient to form a first ceramic body;

(c) exposing said first ceramic body to an environment such as herein described which causes growth of a layer, such as herein described, from at least a portion of a surface of said first ceramic body; and

(d) continuing said exposure in step (c) for a time sufficient to form a protective layer, such as herein described, on at least a portion of said first ceramic body.

(Compl. specn. 31 pages.

Drwgs. 3 sheets.)

Cl. 108C<sub>1</sub>; C<sub>8</sub>

171215

Int. Cl. C 21 C 1/02, C 21 B 11/00,

C 22 B 34/32.

"METHOD FOR PRODUCING CHROMIUM CONTAINING MOLTEN IRON WITH LOW SULPHUR CONCENTRATION."

Applicant : KAWASAKI STEEL CORPORATION. OF 1-28. KITAHONMACHI-DORI 1-CHOME, CHUO-KU, KOBE-SHI, HYOGO-KEN, JAPAN.

Inventors : (1) SUMIO YAMADA, (2) CHIKASHI TADA (3) KEIZO TAOKA, (4) HAZIME BADA.

Application No. 158/Ca/89, filed on February 24, 1989.

Appropriate office for opposition proceedings (Rule 4, Patents Rules, 1972) Patent Office, Calcutta.

#### 18 Claims

A process for producing chromium containing molten iron with low sulphur content, comprising the steps of :

providing a container which has a top and bottom blowing capability; containing CaO, SiO<sub>2</sub>, MgO and Al<sub>2</sub>O<sub>3</sub> and slag forming molten iron bath in said container with molten pig iron; containing sulphur;

adjusting slag to provide CaO/Cr<sub>2</sub>O<sub>3</sub> in a range of 2.1 to 3.5 and MgO/Al<sub>2</sub>O<sub>3</sub> in a range of 0.6 to 0.8; and charging chromium containing material and carbone containing material to said molten iron bath in said container while blowing agitation gas into the bath top and bottom to form low sulphur chromium containing molten iron.

(Compl. Specn. 29 Pages;

Drwgs. 3 Sheets.)

Cl. : 146D<sub>1</sub>

171216

Int. Cl. : G 01 N. 33/00.

"APPARATUS FOR FLUID INSPECTION".

Applicant : INTERNATIONAL INTEGRATED SYSTEMS, INC. OF LEE BUILDING, OPELIKA, ALABAMA 36803, UNITED STATES OF AMERICA.

Inventors : (1) JERRY G. INGRUM

(2) DOUGLAS J. LITTLEJOHN

(3) DOUGLAS MODLIN.

Application No. 284/Ca/1989, filed on April 12, 1989.

Appropriate office for opposition proceedings (Rule 4, Patent Rules 1972) Patent Office, Calcutta.

## 11 Claims

## 4 Claims

Apparatus for fluid inspection comprising :

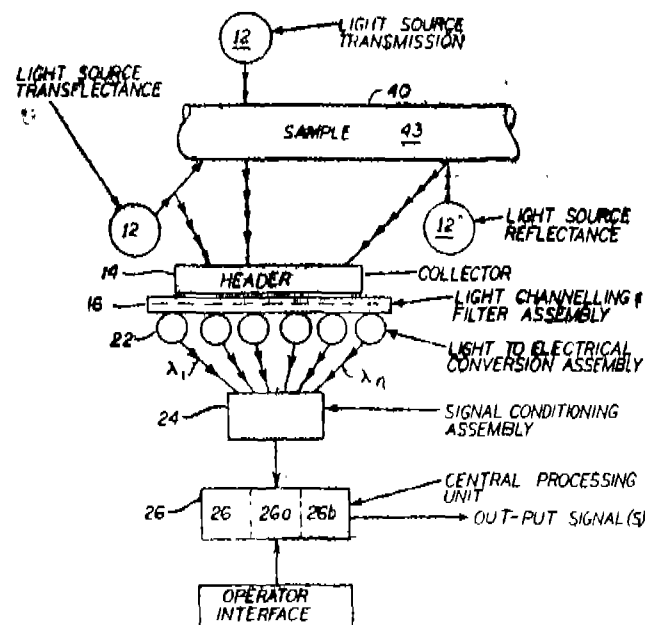
light source (12) for transmitting light through the sample (40); a collector (14) to collect the non absorbed light from the said sample;

light channelling and filter assembly (16) for separating the collected light at the said collector such that the collected light at each of the profiling wavelength as herein defined is isolated;

light to Electrical conversion assembly (22) for detecting the light isolated at the respective profiling wavelength;

the output of said assembly (22) is fed to signal conditioning assembly (24) for amplifying the respective electrical signal of each profiling wavelength for calibration purposes and for providing adequate resolution for manipulation of acquired data; and

central processing unit (26) for recording and storing processed amplified signals to provide control data, which is processed by a processing device (26a) to provide a plurality of mathematical inter-relationship among the light intensity data associated with the respective, profiling wavelengths for each control sample.



(Compl. specn. 41 pages.

Drgns. Nil.)

Cl 32, A<sub>3</sub>

171217

Int. Cl.<sup>4</sup> C 09 B 47/24.

# PROCESS FOR THE PREPARATION OF WATER-SOLUBLE PHTHALOCYANINE DYESTUFFS.

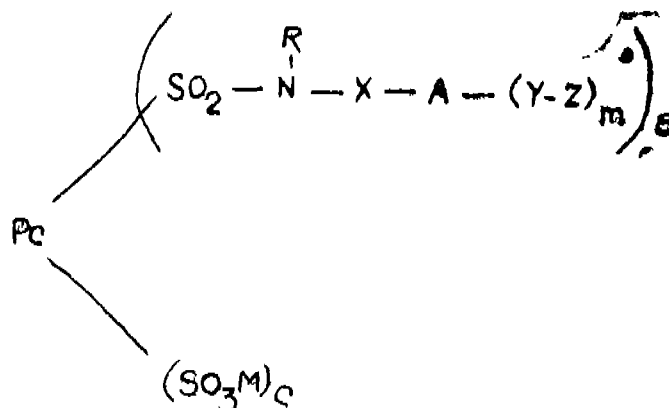
Applicant : HOECHST AKTIENGESELLSCHAFT. OF D 6230 Frankfurt am Main 80, Federal Republic of Germany.

Inventor : HARTMUT SPRINGER.

Application No. 197/Cal/90, filed on March 07, 1990. [Divided out of no. 17/Cal/87, antedated 06-01-1987.]

Appropriate office for opposition proceedings (Rule 4, Patent Rule 1972) Patent Office, Calcutta.

An improved process for preparing a water-soluble phthalocyanine dyestuff of the formula (1) of the accompanying drawings :



Formula (1)

in which

Pc is the radical of the metal-free or a metal-containing phthalocyanine, which may be further substituted in the 3-and/or 4-position of the carbocyclic aromatic ring, and in which the sulfochloride, sulfonamide and/or sulfo groups are bonded in the 3-and/or 4-positions of the carbocyclic aromatic rings.

R is a hydrogen atom or a lower aliphatic radical,

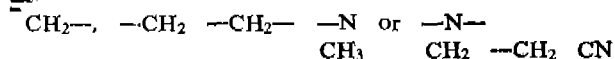
A is an aromatic carbocyclic or aromatic heterocyclic radical,

X is a direct bond or a divalent organic linking member of, together with the-N(R)-Group forms a radical of the formula (5)

in which

xn is an integer from 2 to 6 and alkylene represents a lower alkylene radical,

Y represents a direct bond or a group of the formula



Z is the β-hydroxyethylsulfonyl, β-chloroethylsulfonyl, β-acetoxyethylsulfonyl, β-thiosulfatoethylsulfonyl, β-phosphatoethylsulfonyl, vinylsulfonyl β-sulfatoethylsulfonyl group,

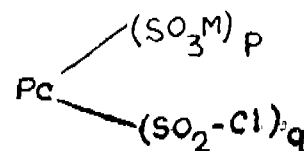
a is an integer from 1 to 4, and

c is an integer from 0 to 3,

where a and c are identical to or different from one another but the sum of (a+c) is a maximum of 4,

m is the number 1 or 2, and

M denotes a hydrogen atom or an alkali metal, which process comprises relating in an aqueous medium a phthalocyanine sulfonyl chloride of the general formula (2) or mixtures thereof,



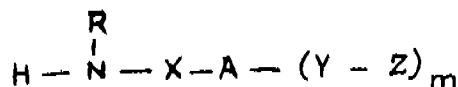
Formula (2)

in which

p is an integer from 0 to 3, and

q is an integer from 1 to 4,

where p and 1 are identical to or different from one another, but the sum of (p+q) is a maximum of 4, and Pc and M have the above mentioned meanings, with an amine of the formula (3)



formula (3)

in which A, R, X, Y, Z and m have the abovementioned meanings, with partial hydrolysis of sulfochloride groups to from sulfo groups, where in the improvement consisting of carrying out that process in the presence of a pyridine compound selected from a pyridine-sulfonamide or a pyridinecarboxamide or a mixture of such compounds.

(Compl. specn. 25 pages.

Drngs. 2 sheets.)

Cl. 55 E<sub>4</sub>

171218

Int. Cl.<sup>4</sup> A 61 B 10/00

C 12 N 15/00.

"PROCESS FOR PREPARING AN OLIGONUCLEOTIDE CONSTITUTING A NUCLEIC ACID PROBE FOR DETECTION OF DNA SEQUENCES SPECIFIC FOR THE MALE GENOME OF RUMINANTS".

Applicants : (1) INSTITUT NATIONAL DE LA RECHERCHE AGRO NOMIQUE (INRA) OF 149 RUE DE GRENELLE, 75007 PARIS, FRANCE, (2) INSTITUT PASTURE OF 28 RUE DU DR ROUX, 25724 ARIS CEDEX 15, FRANCE, (3) COMMISSARIAT A L'ENERGIE ATOMIQUE (CEA), OF 29-33 RUE DE LA FEDERATION, 75015 PARIS, FRANCE,

Inventors : (1) BISHOP COLIN  
(2) COTINOT CORINNE  
(3) FELLOUS MARC  
(4) KIRSZENBAUM MAREK  
(5) JOUY-EN-JOSAS  
(6) VAIMAN MARCEL.

Application No. 734/Cal/90, filed on August 24, 1990.

[Divided out of No. 150/Cal/87 antedated to 27-02-1987].

Appropriate office for opposition proceedings (Rule 4, Patent Rules 1972) Patent Office, Calcutta.

#### 4 Claims

A process for preparing on oligonucleotide constituting a nucleic acid probe for detection of DNA sequence specific for the male genome of ruminants, particularly of the genus Bos, characterized in that it comprises the following steps

(a) Synthesising, by any appropriate procedure known in itself, an oligonucleotide having the following sequence (A) :

5'

3'

ATCATGCAGGACCGAGATGTGCTCCAAGGAGTGTTTA  
TCGGCTGCTT

known in itself, or a DNA fragment comprising at least 11 bases of sequence A, or having a sequence complementary or having at least 70% homology with the sequence of said fragment, said step resulting in the obtention of a nucleic acid fragment hybridizing specifically with DNA sequences specific for the male genome of ruminant;

(b) Optionally, purifying and labeling said oligonucleotide by any appropriate means known in themselves.

(Compl. specn. 42 Pages;

Drwgs.. Nil)

Cl. : 10 B, 72 A.

171219

Int. Cl.<sup>4</sup> : F 42 B 1/00.

"A FIRING UNIT FOR INITIATION OF DETONATORS".

Applicant : NITRO NOBEL AB. OF GYTTO RP, S-713 82 NORA, SWEDEN.

Inventors : (1) SVEN DAHMBERG

(2) ELOF JONSSON  
(3) INGEMAROLSSON  
(4) HJALMAR HESSELBOM  
(5) RILF-WENNERGREN  
(6) PER LILIUS.

Application No. 899/Cal/90, filed on 23-10-1990.

[Divided out of No. 140/Cal/88, fix antedated to 16-2-1988.

Appropriate office for opposition proceedings (Rule 4, Patent Rules 1972) Patent Office, Calcutta.

#### 44 Claims

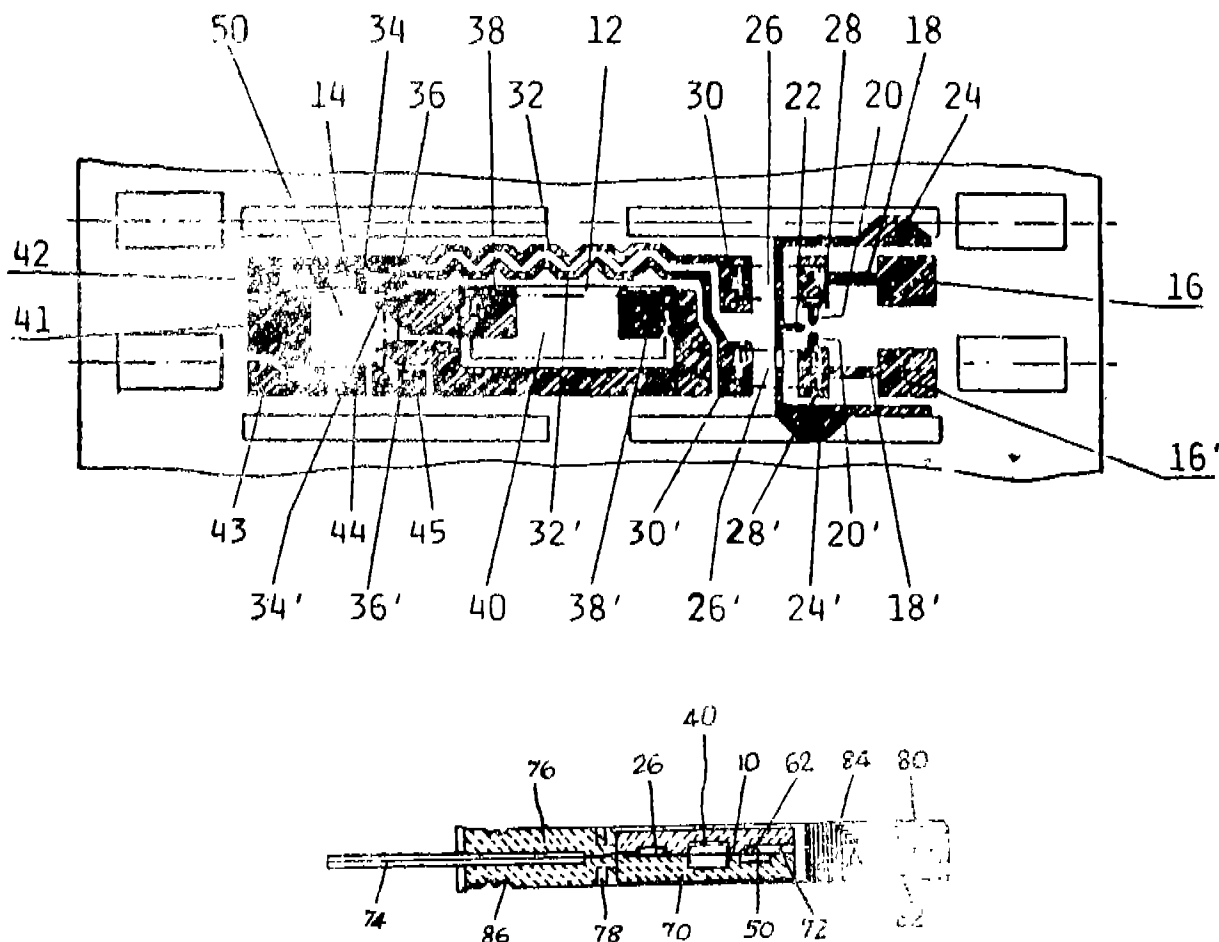
A firing unit for initiation of detonators, which contain at least one base charge in a detonator casing, which firing unit comprises an electrically actuable fuse head a current source connected to the electrically actuable fuse head via switching means, and an electronics unit comprising

a signal decoder designed so as to distinguish a start signal supplied to the detonator via an external signal conductor,

a delay circuit designed in such a way that, when the start signal is received, it supplies an ignition signal after a predetermined time and the switching means, which are designed in such a way that, when the ignition signal is received, they connect the current source to the fuse head in order to electrically actuate the latter, the electronics unit comprising

at least one chip made from a semiconductor material and having a microcircuit, characterized in that the chip made

from a semiconductor material supports the electrically actuatable fuse head on its surface.



(Compl. Specn 50 Pages.

Drwgs. 2 sheets.)

Cl. : 105 D & 168 C.

171220

15 Claims

Int. Cl. G 05 B 1/00, 13/00, 15/00, 19/00,

G 06 F 1/00, 3/00, 5/00, 7/00, 9/00, 15/00.

H 03 M/7/00.

"APPARATUS AND METHOD FOR CONTROL OF ASYNCHRONOUS PROGRAM INTERRUPT EVENTS IN A DATA PROCESSING SYSTEM".

Applicant : DIGITAL EQUIPMENT CORPORATION,  
OF 111 POWDERMILL ROAD MAYNARD, MASSACHU-  
SETTS 01754. UNITED STATES OF AMERICA.

Inventors : (1) DAVID NEIL CUTLER

(2) DAVID ARTHUR ORBITS

(3) DILEEP BHANDARKAR

(4) WAYNE CARDOZA

(5) RICHARD THOMAS WITEK.

Application No. 527/Cal/1988, filed on June 28, 1988.

Appropriate office for opposition proceedings (Rule 4,  
Patent Rules 1972) Patent Office, Calcutta.

Apparatus for responding to an interrupt condition via a control program in a data processing system having a kernel mode of operation for executing privileged and nonprivileged instructions of a currently executing program and a user mode of operation for executing nonprivileged instructions of a currently executing program, comprising :

first register means having a first storage element related to said user mode of operation and a second storage element related to said kernel mode of operation, responsive to an instruction in the currently executing program, for storing a signal in either of said storage elements indicating an enabling condition for said related mode of operation;

second register means having a first storage element related to said user mode of operation and a second storage element related to said kernel mode of operation, responsive to the control program, for storing a signal in either storage element indicating the presence of an interrupt condition in said related mode of operation;

third register means storing a signal designating a mode of operation; and

monitor means connected to said first, second and third register means, for generating an interrupt signal when said first, second, and third register means have signals stored therein related to a same mode of operation.

(Compl. Specn. 30 Pages;

Drwns. 5 Sheets.)

## OPPOSITION PROCEEDINGS

An Opposition has been entered by Research, Designs, and Standards Organisation on Patent Application No. 170100 made by G. H. International Ltd.

## PATENT SEALED ON

17-07-92

157703 164032\* 164151 168221 168342 168556\* 168563  
168619 168651 168717\*D 168784\*D 168896 168909 168913\*  
168916\* 168919 168940\*D 168985 168989 169003\* 169016\*  
169017\* 169021\* 169024 169029\* 169031 169041\* 169042\*  
169052\* 169068\* 169071\*D 169072\*D 169076\* 169078\*  
169080\*D 169088\* 169099 169147 169220 169385 169502\*  
169503\*.

CAL—32, DEL—06, MAS—02 &amp; BOM—02.

\*Patent shall be deemed to be endorsed with the words "LICENCE OF RIGHT" Under Section 87 of the Patent Act, 1970 from the date of expiration of three years from the date of sealing.

D—DRUG Patent.

## REGISTRATION OF ASSIGNMENTS

Assignments, Licences or other transactions affecting the interest of the Original, Patentees have been registered in the following cases.

The number of each case is followed by the name of the parties claiming interest :—

166888—Block Drug Co, Inc.

164161—Block Drug Co, Inc.

166887—Block Drug Co, Inc.

166889—Block Drug Co, Inc.

## RENEWAL FEES PAID

150237 150502 150563 150675 151033 151035 151086 151328  
152007 152044 152798 152966 153150 153604 153772 154121  
154219 154833 154898 155304 155307 155319 155324 155457  
155766 155867 155971 155987 156669 156899 157481 157560  
157642 157660 157684 157864 158508 158597 158931 158933  
159092 159140 159141 159182 159201 159421 159614 159740  
159927 159929 160062 160096 160190 160282 160335 160409  
160450 160452 160453 160465 160513 160582 160660 160779  
160848 161012 161041 161333 161553 161584 161621 161669  
162088 162202 162330 162554 162575 162576 162621 162648  
163036 163107 163163 163658 163706 163817 164109 164236  
164476 164480 164653 164686 164754 164760 164762 164913  
164976 164977 165001 165154 165255 165512 165709 165756  
165769 165803 165848 165908 165917 165934 165953 165957  
165995 166004 166419 166653 166798 166809 166961 166962  
166997 167001 167025 167027 167036 167116 167164 167206  
167207 167366 167469 167481 167507 167508 167515 167516  
167517 167518 167529 167560 167689 167895 168052 168915

## CESSATION OF PATENTS

144756 144796 144824 144829 144864 144888 144898 144902  
144904 144923 144947 144970 144996 144998 145004 145006  
145051 145055 145065 145115 145152 145178 145188 145206  
145219 145224 145239 145264 145275 145300 145307 145314  
145315 145316 145317 145337 145338 145339 145346 145374  
145401 145402 145425 145426 145432 145433 145440 145468  
145478 145482 145492 145504 145526 145535 145536 145566  
145578 145584 145588 145600 145608 145610 145629 145631  
145644 145646 145661 145669 145677 145693 145705 145707  
145749 145757 145795 145821 145828 145853 145860 145882  
145891 145893 145907 145925 145931 145934 145941 145951  
145973.

## RESTORATION PROCEEDING

Notice is hereby given that an application for restoration of Patent No. 1513/9 dated the 28th January 1980 made by Niku Purnachandra on the 14th January 1992 and notified in the Gazette of India Part III, Section 2 dated the 28th March 1992 has been allowed and the said Patent restored.

Notice is hereby given that an application for restoration of Patent No. 151518 dated the 28th January 1980 made by Niku Purnachandra on the 14th January 1992 and notified in the Gazette of India Part III, Section 2 dated the 28th March 1992 has been allowed and the said Patent restored.

Notice is hereby, given that an application for restoration of Patent No. 161930 dated the 20th November 1985 made by Stopine Aktiengesellschaft on the 13th November 1991 and notified in the Gazette of India Part III, Section 2 dated the 25th January 1992 has been allowed and the said Patent restored.

Notice is hereby given that an application for restoration of Patent No. 165329 dated the 10th April 1986 made by Trutzschler GmbH & Co. Kg on the 30th January 1992 and notified in the Gazette of India Part III, Section 2 dated the 28th March 1992 has been allowed and the said Patent restored.

Notice is hereby given that an application for restoration of Patent No. 165364 dated the 11th March 1986 made by Dr. Mihir Sen on the 17th January 1992 and notified in the Gazette of India Part III, Section 2 dated the 28th March 1992 has been allowed and the said Patent restored.

Notice is hereby given that an application for restoration of Patent No. 165537 dated the 27th April 1987 made by Trutzschler GmbH & Co Kg. on the 30th January 1992 and notified in the Gazette of India Part III, Section 2 dated the 28th March 1992 has been allowed and the said Patent restored.

Name Index of Application for Patents in respect of Patent Office Calcutta & its branches for the month of February 1992 (Nos. 71/Cal/92 to 133/Cal/92, 37/Bom/92 to 65/Bom/92, 68/Mas/92 to 119/Mas/92 and 74/Del/92 to 174/Del/92.)

Name and application No.

## CALCUTTA

(71/Cal/92 to 133/Cal/92).

—A—

ABEX Corporation—77/Cal/92.

—B—

B. V. Optische Industrie De Oude Delft—78/Cal/92.

Bapat, V.—85/Cal/92.

Bottoms, J. (Jr.)—86/Cal/92.

Brooke Bond India Ltd.—79/Cal/92.

—C—

Carco Engineering Group PLC.—99/Cal/92.

Carter, C.L.—86/Cal/92.

Catalysts and Chemicals Europe S.A.—132/Cal/92 &amp; 133/Cal/92.

Chicopee—110/Cal/92.

Commonwealth Scientific and Industrial Research Organisation—93/Cal/92.

Company 'A' Foam Ltd.—104/Cal/92.

Concast Standard Ag—71/Cal/92.

—D—

Dallaire Industries Ltd.—118/Cal/92.

Das, M. (Mrs.)—94/Cal/92.

Du Pont Canada INC.—100/Cal/92.

## —E—

ECP Enichem Polimeri S.R.L.—127/Cal/92.  
ELM Wood Packaging Machinery Ltd.—115/Cal/92.  
Enichem Elastomeri S.R.L.—84/Cal/92.  
Ethicon, INC.—101/Cal/92, 108/Cal/92 & 109/Cal/92.  
Euroceltique, S.A.—120/Cal/92 & 121/Cal/92.

## —F—

Franz Plasser Bahnbaumaschinen-Industriegesellschaft m.b.H.  
—114/Cal/92.

## —G—

Galpin, K.R.—91/Cal/92.

## —H—

Hitachi Construction Machinery Co. Ltd.—112/Cal/92,  
124/Cal/92 & 125/Cal/92.  
Hitachi Ltd.—73/Cal/92.  
Hygeia Sciences, Inc.—117/Cal/92.

## —I—

ICI India Ltd.—95/Cal/92, 96/Cal/92, 97/Cal/92 & 98/Cal/92.  
Indian Jute Industries' Research Association—102/Cal/92 &  
107/Cal/92.  
Ishihara Sangyo Kaisha Ltd.—103/Cal/92.

## —J—

J.M. Voith GmbH—126/Cal/92.  
Jean Frederic Melchior—106/Cal/92.

## —K—

Kabushiki Kaisha Hosokana Yoko—123/Cal/92.

## —L—

Loesche GmbH—128/Cal/92.

## —M—

Metallgesellschaft Aktiengesellschaft—72/Cal/92, 80/Cal/92  
& 81/Cal/92.  
Mukherjee, C.R.—130/Cal/92.  
Mukherjee, D.—119/Cal/92.

## —N—

NGK Insulators, Ltd.—83/Cal/92.  
Nissin Shokuhin Kabushiki Kaisha—122/Cal/92.  
Nitro Nobel AB.—82/Cal/92.  
Norvic S.A.—87/Cal/92.

## —R—

Repap Technologies Inc.—90/Cal/92.  
Resal International Ltd.—105/Cal/92.  
Reutenberg, L.J.—111/Cal/92.  
Rohrkalibrier-Und Bogenautomaten Rokabo AG—129/Cal/92.

## —S—

Siemens Aktiengesellschaft—74/Cal/92 & 113/Cal/92.  
Sloma, R.M.—89/Cal/92.  
Sumitomo Chemical Co. Ltd.—88/Cal/92.  
Sunkyong Industries Ltd.—131/Cal/92.

## —T—

Thomas, F.—75/Cal/92.  
Trico-Rolberth Ltd.—92/Cal/92.  
Trutan Pty Ltd.—76/Cal/92.  
Trutzschler GmbH & Co. KG—110/Cal/92.

## —W—

Walton, G.F.—91/Cal/92.

## BOMBAY

(37/Bom/92 to 65/Bom/92)

## —B—

Byadgi, V.H. (Dr.)—37/Bom/92.

## —D—

Desai, M.H.—63/Bom/92.  
Desai, M.N.—48/Bom/92.  
Dhaul, H.—62/Bom/92.  
Dhaul, L. (Smt.)—62/Bom/92.

## —H—

Hameed, K.H.—39/Bom/92.  
Hindustan Lever Ltd.—44/Bom/92, 49/Bom/92 &  
56/Bom/92.  
Hoechst India Ltd.—46/Bom/92.

## —K—

Kamat, A.R. (Dr.)—45/Bom/92.  
Khan, S.—53/Bom/92.

## —L—

Larsen & Toubro Ltd.—59/Bom/92.

## —M—

Makwana, K.R.—50/Bom/92.  
Mujumdar, S.V.—65/Bom/92.

## —N—

Naik, D.S.—61/Bom/92.

## —P—

Patel, P.L.—64/Bom/92.

## —R—

Rajak, P.L.—57/Bom/92.

## —S—

Shah, K.S.—64/Bom/92.  
Sisodia, J.C.—41/Bom/92, 42/Bom/92 & 43/Bom/92.  
Siva Kumar, S.—58/Bom/92.  
Star Holdings & Electronics Research Pvt. Ltd. M/s.—51/  
Bom/92.  
Subramanyan, N.—58/Bom/92.

## —T—

Taparia Tools Ltd.—52/Bom/92 & 55/Bom/92.

## —V—

Varghese, W.—40/Bom/92.  
Vartak, T.P.—47/Bom/92.

## —Y—

Yadav, A.S.—54/Bom/92.  
Yadav, R.R.—60/Bom/92.

## MADRAS

(68/Mas/92 to 119/Mas/92).

## A

Advanced extraction technologies, Inc.—73/Mas/92.

Amsted Industries Incorporated—95/Mas/92.

Astra Research Centre India—91/Mas/92.

## B

Balasubramanian, S.—85/Mas/92 &amp; 86/Mas/92.

Binny Ltd.—87/Mas/92.

Bracco S.P.A.—105/Mas/92.

Barcker AG.—98/MAS/92.

## C

CCAI Inc.—116/Mas/92.

Cabot Corporation.—113/Mas/92;

Caterpillar Inc.—108/Mas/92.

Chemech Engineers Pvt. Ltd.—72/Mas/92.

Cosby, T.L.—119/Mas/92.

## D

Deutsche Babcock Energieund Umwelttechnik Aktiengesellschaft.—101/Mas/92.

Dow Chemical Co., The.—71/Mas/92.

## E

English Electric Co. of India Ltd., The.—117/Mas/92.

Ezio Selva S.r.l.—90/Mas/92.

## F

Fritz Meckenstock GmbH &amp; Co.—109/Mas/92.

Fukuoka, M.—74/Mas/92.

## G

Gafoor, C.P.A.—107/Mas/92.

Gowthaman, M.—79/Mas/92.

## H

Hoogovens Groep B.V.—88/Mas/92 &amp; 89/Mas/92.

## K

Keyes Fibre Co.—75/Mas/92.

Kumar, K.N.S.—81/Mas/92.

## L

Lumigen, Inc.—97/Mas/92.

## M

Ma's Incorporated.—104/Mas/92.

Menon, M.A.—76/Mas/92.

Monsanto Co.—118/Mas/92.

## N

Nagarajan, N.—68/Mas/92 &amp; 96/Mas/92.

Narasimhan, V.—70/Mas/92.

National Mineral Development Corporation Ltd.—106/Mas/92.

Norton Co.—94/Mas/92.

Novo Nordisk A/S.—84/Mas/92.

## P

Pilkington Visioncare Inc.—80/Mas/92.

## R

Ravindran, G. (Dr.).—93/Mas/92.

Robert Bosch GmbH.—110/Mas/92, 111/Mas/92 &amp; 112/Mas/92.

## S

Shet, G.V.—100/Mas/92.

South India Textile Research Association, The.—78/Mas/92 &amp; 83/Mas/92.

## T

Technofarmaci S.P.A.—105/Mas/92.

Technological Resources Pty. Ltd.—77/Mas/92.

Thaikattil, J. (Dr.).—92/Mas/92.

Thangaraj, J.D.—99/Mas/92.

## U

United States of America as represented by the Secretary of Agriculture.—82/Mas/92.

University of Essex of Wivenhoe Park—114/Mas/92.

Urea Casale S.A.—115/Mas/92.

## V

Vijayan, T.A.—102/Mas/92 &amp; 103/Mas/92

## W

World Fabrication Partnership Concern.—69/Mas/92.

## DELHI

(74/Del/92 to 174/Del/92)

## A

AMP Incorporated.—168/Del/92.

Akhawat, V.—90/Del/92 &amp; 91/Del/92.

Allied-Signal Inc.—131/Del/92.

## B

B.F. Goodrich Co., The.—141/Del/92.

BP Chemicals Ltd.—139/Del/92.

Batwright, D.W.—128/Del/92.

Biocarbons Corporation.—171/Del/92.

British Technology Group PLC.—76/Del/92.

## C

Calgene, Inc.—154/Del/92.  
 Carlstedt Elektronik AB.—172/Del/92, 173/Del/92 & 174/Del/92.  
 Chief Controller Research & Development, The.—150/Del/92.  
 Conroy, M.—112/Del/92.  
 Cotton Unlimited, Inc.—127/Del/92.  
 Council of Scientific & Industrial Research.—98/Del/92, 99/Del/92, 100/Del/92, 101/Del/92, 102/Del/92, 103/Del/92, 103/Del/92, 104/Del/92, 105/Del/92, 106/Del/92, 107/Del/92, 115/Del/92, 116/Del/92, 117/Del/92, 118/Del/92, 119/Del/92, 120/Del/92, 121/Del/92, 122/Del/92, 133/Del/92, 157/Del/92, 158/Del/92, 159/Del/92, 160/Del/92 & 161/Del/92.  
 Courtaulds PLC.—82/Del/92.

## D

Dransfield, P.J.—156/Del/92.  
 Dresser Industries Inc.—169/Del/92.  
 Drip Irrigation Systems, Ltd.—151/Del/92.

## E

E.R. Squibb & Sons, Inc.—96/Del/92.  
 Evans, B.K.—149/Del/92.  
 Exxon Chemical Patents, Inc.—81/Del/92 & 38/Del/92.  
 Exxon Research & Engineering Co.—94/Del/92.

## F

Fosroc International Ltd.—163/Del/92.

## G

GEC Alsthom SA.—83/Del/92.  
 GPT Ltd.—108/Del/92 & 164/Del/92.  
 Gillitte Co., The.—162/Del/92.

## H

Henri Courier De Mere Les Berruriers.—85/Del/92.

## I

Ide, R.D.—88/Del/92.  
 Imperial Chemical Industries PLC.—75/Del/92 & 123/Del/92.  
 Inteco.—147/Del/92.  
 International Mobile Machines Corporation.—74/Del/92.

## J

Johal, S.A.S.—166/Del/92.

## K

Kalumburu Pty. Ltd.—135/Del/92.  
 Kaushal, R.S.—167/Del/92.  
 Keegan, P.R.—165/Del/92.  
 Kievsky Filial Nauchno-Proizvodstvennogo Obiedinenia Tekhnergokhimprom.—93/Del/92.  
 Kraft General Foods, Inc.—124/Del/92.  
 Krishnankutty, K.—87/Del/92.  
 Krompaszky, M.—165/Del/92.

## L

Lebenthal, E.—128/Del/92.  
 Linemann Halble India Ltd.—79/Del/92.

## M

Marquand, E.L.—156/Del/92.  
 Medix International Pty. Ltd.—95/Del/92.  
 Mobil Solar Energy Corporation.—145/Del/92.  
 Morton International Ltd.—132/Del/92.  
 Motorola, Inc.—89/Del/92.

## N

National Power PLC.—153/Del/92.  
 Nordson Corporation.—113/Del/92.

## O

Olin Corporation.—137/Del/92.  
 Otis Elevator Co.—140/Del/92.

## P

Paul Wurth S.A.—114/Del/92.  
 Polymerix, Inc.—170/Del/92.  
 Polytech Research.—155/Del/92.  
 Prasad, R.—86/Del/92.  
 Prochind S.P.A.—129/Del/92.  
 Procter & Gamble Co., The.—78/Del/92, 125/Del/92, 142/Del/92, 143/Del/92 & 144/Del/92.

## R

Rhodes, J.—149/Del/92.  
 Richardson-Vicks Inc.—92/Del/92.

## S

SSPL SAFE SEX Producers Licensing.—111/Del/92.  
 Saini, N.K.—152/Del/92.  
 Senanayake, D.R.—146/Del/92.  
 Simmons-Rand Co.—130/Del/92.  
 Sir Padampat Research Centre.—80/Del/92.  
 Steel Authority of India Ltd.—148/Del/92.  
 Stefan Pfister.—77/Del/92.

## T

Telefonaktiebolaget LM Ericsson.—134/Del/92.  
 Torrington Co. Ltd., The.—109/Del/92.

## U

Union Carbide Industrial Gases Technology Corporation.—136/Del/92.

## V

Voest-Alpine Industrieanlagenbau GmbH.—110/Del/92.

## W

W.R. Grace & Co.—126/Del/92.  
 Wadhwa, H.—84/Del/92.  
 Washington Odur Ayako.—97/Del/92.



**SUBJECT MATTER INDEX AS PER INTERNATIONAL CLASSIFICATION  
SYSTEM OF THE COMPLETE SPECIFICATION ACCEPTED AND  
NOTIFIED DURING THE YEAR—1990**

(Date of specification in 2nd column denotes; Date of Complete specification/Anti-date/Post-date. 4. Classes of Applicants Code in the 7th column are the abridged forms : i.e. I-Indian Individual; IC-Indian company; F-Foreign Individual; FC Foreign Company).

**SECTION F : MECHANICAL ENGINEERING; LIGHTING; HEATING;  
WEAPONS; BLASTING.**

**No case was accepted within the following classes**

F	01	M	: Lubricating of machines or engines in general; Lubricating internal-combustion engines; Crankcase ventilating.
F	01	P	: Cooling of machines or engines in general; Cooling of internal-combustion engines.
F	02	G	: Hot-gas or combustion-product positive-displacement engine plants; use of waste heat of combustion engines, not otherwise provided for.
F	03	H	: Producing a reactive propulsive thrust, not otherwise provided for.
F	04	F	: Pumping of fluid by direct contact of another fluid or by using inertia of fluid to be pumped; Siphons.
F	15	D	: Fluid dynamics i.e. methods or means for influencing the flow of gases or liquids.
F	16	M	: Frames, casings, or beds, of engines or other machines or apparatus, not specific to an engine, machine, or apparatus provided for elsewhere; Stands or supports.
F	16	T	: Steam traps or like apparatus for draining-off liquids from enclosures pre-lominantly containing gases or vapours.
F	17	B	: Gas holders of variable capacity.
F	17	D	: Pipe-line systems; Pipe-lines.
F	21	K	: Light sources not otherwise provided for.
F	21	L	: Portable lighting devices.
F	21	H	: Non-portable beam lighting devices or systems.
F	21	P	: Non-portable devices or systems for flood-lighting buildings, lighting fountains, lighting stages, or festival lighting.
F	21	Q	: Non-portable lighting devices for signalling.
F	21	S	: Non-portable lighting devices or systems, not otherwise provided for.
F	23	H	: Grates, Cleaning or raking grates.
F	23	L	: Air supply; Draught-inducing; Supplying non-combustible liquid or gas.
F	23	M	: Constructional details of combustion chambers, not otherwise provided for.
F	24	D	: Domestic or space-heating systems, e.g. central heating systems, Domestic hot-water supply systems, Elements or components therefor.
F	25	C	: Production, working, storing, or distribution of ice.
F	28	G	: Cleaning of internal or external surfaces of heat-exchange or heat-transfer conduits, e.g. water tubes of boilers.
F	41	B	: Weapons for projecting missiles without use of explosive or propellant charge; Weapons not otherwise provided for.
F	41	H	: Armour; Armoured turrets; Armoured or armed vehicles; Means of attack or defence, e.g. camouflage, in general.
F	42	C	: Fuzes; Arming or safety means therefor.
F	42	D	: Blasting.

## SECTION-F : MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING

## F 01 : MACHINES OR ENGINES IN GENERAL: ENGINE PLANTS IN GENERAL: STEAM ENGINES.

## F 01 B : Machines or engines, in general or of positive-displacement type, e.g. steam engines.

1	2	3	4	5	6	7	8
166829	13-11-86	SANDEN CORPORA- TION.	Wobble plate type compressor with a variable displacement mechanism.	21-07-90	3/00	6 A 2	FC.
167862	13-07-87	JEAN FREDERIC MEJCHOR	Piston for reciprocating machines employing compression of a gaseous fluid and machines provided with such a piston.	29-12-90	17/02	107-G	F

## F 01 C : Rotary-piston or oscillating-piston machines or engines

165913	29-05-86	SANDEN CORPORA- TION.	Wobble plate type compressor.	10-02-90	3/00.	156-A, 6A <sub>3</sub> .	FC.
165940	23-04-86	POCLAIN HYD- RAULICS.	Hydraulic mechanism such as for engine or pump.	10-02-90	9/00. 21/00	102-D	FC.
166905	07-04-89	HIRAK MUKHER- JEE	Constrained rotary vane machine.	04-08-90	1/00.	163-D & B <sub>3</sub> -XLIV (3), 6-A, -XLVII(1)	I.
167155	11-05-87	JOE SANTA & AS- SOCIATES PTY.LTD.	Improvements in or relating to rotary air machines.	08-09-90	1/00.	163-D	FC.

## F 01 D : Non-positive-displacement machines or engines e.g. steam turbines

166144	12-02-87	COUNCIL OF SCIE- NTIFIC & INDUS- TRIAL RESEARCH.	A turbine blade having in built cooling arrangements.	17-03-90	5/12.	190-B	IC.
166450	14-11-86	ALVIN HENRY BENESH.	A savonius rotor assembly for interacting with a fluid.	12-05-90	5/00.	190-C	F.
167043	18-02-86	BBC BROWN BOVERI LTD.	Control wheel intended for welding onto the high-pressure rotor of a steam turbine and a method for making the same.	25-08-90	1/16.	190-B-XLIV- (4).	FC.
167233	18-03-86	NARAYANASWAMY NAIDU DURAISWAMY.	An improved monoblock pumpset.	22-09-90	25/00. 25/28.	163-D-Group- XLIV (3).	I.
167234	18-03-86	NARAYANASWAMY NAIDU DURAL- SWAMY.	A bracket for coupling the prime mover and pump of a monoblock pumpset.	22-09-90	25/00. 25/28.	163-D-Group- XLIV (3).	I.
167677	08-07-86	MAN GUTEHOFF- NUNGS HUTTE GMBH.	Device for typing the moving blades of a thermal turbo-machine by projections extending in the circumferential direction which are rigidly connected in pairs to their allied moving blade.	08-12-90	5/22.	190-B-Group- XLIV(4).	FC.
167807	09-10-86	TURBO-LUFTTE- CHNIK GMBH.	Axial fan.	22-12-90	11/00.	36-A.1-Group- XLIV (I).	FC.

## F 01 K : Steam engine plants; Steam accumulators; Engine plants not otherwise provided for; Engines using special working fluids or cycles

165783	19-09-85	ALEXANDER ISAI KALINA.	Apparatus for generating energy using a multi-component working fluid.	13-01-90	25/10.	175-E.	F.
166376	10-07-86	KRAFTWEAR UNI- ON AKTIENGES- LLSCHAFT.	A power plant including a gas turbine and a steam turbine.	21-04-90	3/00.	190-A; 177-D.	FC.

1	2	3	4	5	6	7	8
166442	28-07-86	SIEMENS AKTIEN-GESELLSCHAFT.	A combined gas and steam turbine power plant.	12-05-90	3/00.	190-A	FC.
<b>F 01 L : Cyclically operating valves for machines or engines</b>							
165835	11-09-85	APPLICATIONS MECANIKES ET ROBINETTERIE INDUSTRIELLE(A.M.R.I.)	A butterfly valve.	20-01-90	3/00, 7/00.	195-D	F.C.
<b>F 01 N : Gas-flow silencers or exhaust apparatus for machines or engines in general; Gas-flow silencers or exhaust apparatus for internal-combustion engines</b>							
166989	11-04-86	CATERPILLAR INC.	A heat shield assembly adapted for use with an exhaust system of an engine.	18-08-90	7/10.	107 E & G-Group-XLVI (2).	FC.
167330	01-12-87	THE ENFIELD INDIA LIMITED.	A device for reducing the commission from the exhaust of automobile engines.	06-10-90	3/08.	107-1 (c & G)-Group-XLVI (2).	IC.
<b>F 02 : COMBUSTION ENGINES; HOT-GAS OR COMBUSTION-PRODUCT ENGINE PLANTS.</b>							
<b>F 02 B : Internal-combustion piston engines; Combustion engines in general.</b>							
165794	28-05-86	THE JACOBS MANUFACTURING COMPANY.	An improved engine retarding system of a gas compression release type.	13-01-90	15/00, 39/00.	107-G, J	F.C.
165904	01-08-86	ROTO-MASTER INC.	Turbochargers.	10-02-90	37/00, 39/00	190-B	FC.
165973	30-05-86	AVL GESELLSCHAFT FÜR VERBRENNUNGSKRAFTMASCHINEN UND MESSTECHNIK mbH.	Two stroke internal combustion engine with uniflow scavenging.	17-02-90	25/02, 25/26, 27/06.	107-B	FC.
166067	23-06-87	JEAN FREDERIC MELCHIOR	Two-stroke internal combustion engine and cylinder head provided with said engine.	10-03-90	77/00.	107 B.C.	F.
166097	24-03-87	COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH.	A descaling bath for descaling of diesel engine components and a process for descaling the diesel engine components using the bath.	10-03-90	77/04	107-G.	IC.
166111	08-12-87	ANIL UPMANYU	An improved four stroke otto cycle vertical internal combustion engine.	17-03-90	29/00.	107D+G-GR. XLVI(2); 127D+I-GR. LXV(1).	1.
166376	10-07-86	KRAFTWEAR UNION AKTIENGESSELLSCHAFT	A power plant including a gas turbine and a steam turbine.	21-04-90	1/00	190-A 177-D.	FC.
166432	02-07-86	DUCELLIER ET CIE	An improved centrifugal advance regulator for the ignition distributor of an internal combustion engine.	05-05-90	19/12	107-F.	FC.
166656	30-04-86	AVL GESELLSCHAFT FÜR VERBRENNUNGSKRAFTMASCHINEN UND MESSTECHNIK MB H.	A two-stroke internal combustion engine having a system for the exchange of charge therein.	30-06-90	25/14	107/B	FC.
166671	02-12-85	LUIGI MURABITO	An internal combustion engine.	30-06-90	47/02	107-G	F.

1	2	3	4	5	6	7	8
166777	14-07-86	DUCELLIER ET CIE	Magnetically triggered ignition distributor for internal combustion engines.	14-07-90	67/00, 67/02.	107-F	FC.
166903	29-03-88	BAJAJ AUTO LIMITED	A two-stroke internal combustion engine.	04-08-90	1/08, 3/02, 23/06 & 23/10.	107-B & G & XLVI (2)	IC.
166980	26-02-88	JOAQUIM ANTONIO VALADARES	Hydraulic internal combustion engine.	11-08-90	13/00, 15/00, 41/00, 53/00.	107-B-- XLVI(2).	I.
167143	17-03-86	(1.) KADAMBEE SESHADRI BALAJI (2) KADAMBE SESHADRI	A two/four stroke internal combustion engine.	08-09-90	75/22.	107-C & G Group-XLVI(2)	I.
167330	01-12-87	THE ENFIELD INDIA LIMITED	A device for reducing the co emission from the exhaust of automobile engines.	06-10-90	75/10,	107-I(c&g) Group-XLVI(2).	IC.
167357	20-04-87	JEAN FREDERIC MELCHIOR	An internal combustion engine.	13-10-90	29/00.	107-B	F.
167732	22-01-87	A 4 GM ENERGETI-KAI GEPGYARTO LEANYVALLALAT	Laminar heat shield for the heat insulation, of duct, pipe and tank walls.	15-12-90	41/00.	107-C- XLXI(2)	FC.
<b>F 02 C : Gas-turbine plants; Air intakes for jet-propulsion plants; Controlling fuel supply in air breathing jet-propulsion plants.</b>							
166442	28-07-86	SIEMENS AKTIEN-GESELLSCHAFT	A combined gas and steam turbine power plant.	12-05-90	6/00	190-A	FC.
166956	17-02-86	ALEXANDER ISAI KALINA	An apparatus for improving the heat utilization efficiency of a thermodynamic cycle.	11-08-90	1/00.	177-D-Group- XLV(5)	F.
<b>F 02 D : Controlling combustion engines.</b>							
166427	05-11-86	GALBRATH ENGINEERING PTY LTD.	Reciprocating machines.	05-05-90	13/00	175-C	FC.
<b>F 02 F : Cylinders, pistons, or casings for combustion engines, Arrangements of sealings in combustions engines.</b>							
166263	05-11-85	HONDA GIKEN KOGYO KABUSHIKI KAISHA	Siam-se-type cylinder block blank and apparatus for casting the same.	07-04-90	1/18.	107-C	FC.
166593	29-01-86	AE PLC.	A piston for machines such as an internal combustion engine or a compressor.	09-06-90	3/00, 5/00.	107G, 6A <sub>3</sub>	FC.
167102	01-07-87	SONEX RESEARCH INC.	Internal combustion engine.	01-09-90	1/00.	107-C	FC.
<b>F 02 K : Jet-propulsion plants.</b>							
167855	25-09-86	FOSTER WHEELER LIMITED.	A heat recovery apparatus.	29-12-90	3/00	190-A	FC.
<b>F 02 M : Supplying combustion engines in general with combustible mixtures or constituents thereof.</b>							
166652	03-01-86	JITENDER GUPTA	Device for petrol engine for using gas as fuel.	30-06-90	21/02	127-I	I.

1	2	3	4	5	6	7	8
166965	30-06-86	DUCELLIER CIE	Motor vehicle internal combustion engine ignition distributor rotor.	11-08-90	39/00., 41/00., 57/00.	107-F	FC
166987	25-03-86	LACREX BREVETTI S.A.	Device for preheating : liquids such as liquid fuels.	18-08-90	53/02	107-L-Group- LXVI(2)	FC.
167026	17-06-86	KEEWEST DEVELOPMENT LIMITED	Fuel system for internal combustion sparkingigniton engine.	18-08-90	23/00	107-F.G.	F.C.
167326	03-01-87	ARCOT JANAKI- RAMLOGANATHAN	A device for increasing the fuel combustion efficiency of an I. C. engine.	06-10-90	15/00.	107-I-Group- XLVI(2)	I.
167329	15-07-87	CARBURETTORS LIMITED	A valve plate assembly for the fuel pump of a motor vehicle	06-10-90	59/44, 59/46.	107—H&G- Group-XLVI(2)	IC.
167791	06-06-86	CATERPILLAR INC.	Air fuel ratio control system having a fluid powered broken-link mechanism for an internal combustion engine	22-12-90	63/04.	107-G&J-- Group-XLVI (2)	FC.
167833	13-07-86	ORBITAL ENGINE COMPANY PROPRIETARY LIMITED	A fuel injection apparatus	29-12-90	39/00.	107-C 106-XLVII	FC.

**F 02 N : STARTING OF COMBUSTION ENGINES; STARTING AIDS FOR SUCH ENGINES, NOT OTHERWISE PROVIDED FOR**

167459	23-12-86	MAGNETI MARELLI S.P.A.	Starter device for internal combustion engines for motor vehicles.	27-10-90	11/00, 17/00.	107-G & J- GROUP- XLVI(2).	FC.
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**F 02 P : Ignition, other than compression ignition, for internal-combustion engines; Testing of ignition timing in compression-ignition engines**

166150	02-04-86	BERU RUPRECHT GMBH & CO. KG.	Ignition system for use in internal combustion engines.	17-03-90	1/00.	107-F	FC.
167349	25-01-88	LUCAS-TVS LIMITED.	A ballasted ignition coil for use in auto mobiles.	13-10-90	1/00.	107-F GROUP- XLVI(2).	TC.

**F 03 : MACHINES OR ENGINES FOR LIQUIDS : WIND, SPRING, WEIGHT, OR MISCELLANEOUS MOTORS; PRODUCING MECHANICAL POWER OR A REACTIVE PROPULSIVE THRUST; NOT OTHERWISE PROVIDED FOR.**

**F 03 B : Machines or engines for liquids**

166421	16-10-86	LOUIS WORMS.	Hydraulic turbine.	05-05-90	3/00.	190-C	F.
166551	02-09-87	COMPAGNIE GENERATE DES-MAT IERES NU. CLEAIRES.	Blowers having its guidance sleeve as an essential unit.	09-06-90	3/00.	163-B <sub>1</sub> &D.	FC.
166938	26-03-86	NARAYANASWAMI PALAI.	Device for harnessing energy from deep sea coastal wave action and gravity.	11-08-90	13/26.	101-F- GROUP XXVIII(2).	I.

**F 03 C : Positive-displacement engines driven by liquids**

165788	15-12-86	OTTIVAKKAM NATARAJAN DEVARAJAN.	Improved fluid fed multiple cylinder two stroke reciprocating engines.	13-01-90	1/02.	136-D	I.
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1	2	3	4	5	6	7	8
<b>F 03 D : Wind motors</b>							
166540	24-02-87	MONTANA WIND TURBINE INC.	Wind turbine.	26-05-90	11/00.	190-D	FC.
166714	26-11-87	PETER JANSSON.	A wind turbine.	14-07-90	3/00.	190-D	F.
167604	14-05-87	VIJAM JOSHUA.	An improved gyromill.	24-11-90	7/06.	190-D- GROUP- XLIV(4).	I.
<b>F 03 G : Spring, weight, inertia, or like motors; Mechanical-power-producing devices or mechanisms, not otherwise provided for or using energy sources not otherwise provided for</b>							
166921	16-12-85	1. JEUMONT-SCHNEIDER. 2. BRISSONNEAU ET LOTZ MARINE.	Thermal energy collector and cooling system including such a collector.	04-08-90	7/02.	98-I-VII(2).	FC.
167674	12-06-86	1. MITSUBISHI DENKI KABUSHIKI KAISHA.	Spring operating mechanism for a circuit interrupter.	08-12-90	1/00.	127D&H- GROUP-LXV (1). 135-GROUP- LXV(2). 69G-GROUP- LIX(1).	FC.
<b>F 04 : POSITIVE-DISPLACEMENT MACHINES FOR LIQUIDS; PUMPS FOR LIQUIDS OR ELASTIC FLUIDS</b>							
<b>F 04 B : Positive-displacement machines for liquids, pumps</b>							
165965	07-10-85	CATERPILLAR INC.	An apparatus for controlling the supply of fuel to an internal combustion engine.	17-02-90	49/00.	134-A, 107-G	FC.
166315	17-09-86	SANDEN CORPORATION.	Rotation preventing mechanism of wobble plate compressor.	07-04-90	1/16, 9/04.	163-A, 6A <sub>2</sub> ,3.	FC.
166501	08-10-85	CATERPILLAR INC.	An apparatus for controlling an internal combustion engine.	19-05-90	49/00.	107G. 127-I.	FC.
166583	16-05-86	WIWA WILHELM GMBH & CO.KG.	A device for driving piston pumps.	09-06-90	15/00.	163-A	FC.
167071	05-08-86	ABIR KUMAR SARKAR.	A novel pump for lifting under-ground water.	25-08-90	47/00.	156-D	I.
167298	23-03-88	LUZ INDUSTRIES ISRAEL LTD.	A hydrogen pump.	06-10-89	15/00.	6-A <sub>1</sub> L.+A <sub>2</sub> XLVII(I).	FC.
<b>F 04 C : Rotary piston, or oscillating-piston, positive-displacement machines for liquids; Rotary-piston, or oscillating-piston, positive-displacement pumps</b>							
166532	02-12-86	VICKERS INCORPORATED.	A variable displacement hydraulic pump control system.	26-05-90	29/08.	102-D.	FC.
<b>F 04 D : Non-positive displacement pumps</b>							
165892	29-01-86	SANDEN CORPORATION.	Scroll type compressure.	03-02-90	3/00. 29/32.	36B <sub>3</sub>	FC.
167165	02-07-87	KLEIN SCHANZLIN & BECKER AKTIENGESELISCHAFT.	Fluid flow machines in particular centrifugal pumps.	15-09-90	29/42.	36A <sub>1</sub>	FC.

1	2	3	4	5	6	7	8
<b>F 15 : FLUID-PRESSURE ACTUATORS; HYDRAULICS OR PNEUMATICS IN GENERAL</b>							
<b>F 15 B : Systems acting by means of fluids in general; Fluid-pressure actuators, e.g. servo-motors; Details of fluid-pressure systems, not otherwise provided for</b>							
167126	03-04-87	UMESH KORDE.	An oscillating water column absorbing wave maker.	01-09-90	21/12.	101-F-GROUP -XXVIII(2).	I.
167246	17-04-86	RUHRGAS AKTIENGESELLSCHAFT.	A pneumatic cycle timing device for using with appliances such as a cooker or a heater.	29-09-90	13/044.	195-B-GROUP-XXIX(3)	FC.
<b>F 15 C : Fluid-circuit elements predominantly used for computing or control purposes</b>							
165990	26-12-86	HITACHI CONSTRUCTION, MACHINERY CO. LTD.	Control system of hydraulic construction machinery.	17-02-90	1/00.	71-C;E;G.	FC.
166125	08-09-86	HITACHI CONSTRUCTION MACHINERY CO. LTD.	Control system for hydraulically-operated construction machinery.	17-03-90	1/00, 3/00.	102-D	FC.
<b>F 16 : ENGINEERING ELEMENTS OR UNITS ; GENERAL MEASURES FOR PRODUCING AND MAINTAINING EFFECTIVE FUNCTIONING OF MACHINES OR INSTALLATIONS; THERMAL INSULATION IN GENERAL.</b>							
<b>F 16 B : Devices for fastening or securing constructional elements or machine parts together .e.g nails, bolts, circlips, clamps, clips, wedges, joints or jointing</b>							
165833	13-08-85	PONT-A-MOUSSON S.A.	A jointed pipe male and socket ends.	20-01-90	9/00.	150F, G.	FC.
165841	29-04-86	HUCK MANUFACTURING COMPANY	A fastening device and a method of manufacture of the fastening device for securing workpiece together with a selectively variable clamp.	27-01-90	2/02.	76-B.	FC.
166134	24-12-85	TRI-STAR DATA.	A fastening device for clamping an unthreaded intermediate member to a threaded receiving member.	17-03-90	29/00.	76-B.	FC.
166522	30-10-85	BL TECHNOLOGY LIMITED, AND ALCAN INTERNATIONAL LIMITED.	A method of manufacturing structures with components formed from aluminium sheet.	26-05-90	11/00.	129-G.	FC
166601	29-10-85	PREFORMED LINE PRODUCTS COMPANY.	A clamp assembly for clamping a power cable to an insulator.	09-06-90	31/00.	48-D <sub>1</sub> & 4, 68-C-Groups -LVIII(3) & LVII(3).	FC.
167213	21-03-86	RALPH MUILEMBERG.	Conical stressing device for connecting a hub to a shaft.	22-09-90	1/00.	76-F & 129G, Groups-LXIV (4) & XXXV.	F.
167351	28-10-85	HUCK MANUFACTURING COMPANY.	Improvements in high strength fastener assembly.	13-10-90	19/00.	19-C	FC.
167539	07-03-88	UMESH KORDE.	A device for fixing rods, wires, ropes and the like in vertical positions.	10-11-90	37/00.	129-G-groups	K.
167676	04-07-86	KEELGIEN LIMITED.	A connecting device.	08-12-90	12/00.	183-Group-LXVI(8).	FC.

1	2	3	4	5	6	7	8
<b>F 16 C : Shafts, flexible shafts, Elements of crankshaft mechanisms. Rotary bodies other than gearing elements : Bearings</b>							
165895	03-02-86	THE SECRETARY OF STATE FOR TRADE AND INDUSTRY IN HER BRITANNIC MAJESTY'S GOVERNMENT OF THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND.	Fibre reinforced plastic connecting rod.	03-02-90	7/02.	175-A	FC.
166217	22-10-85	AEPLC.	A bearing.	31-03-90	33/12.	15-C	FC.
166423	21-10-86	WARMAN INTERNATIONAL LIMITED.	A bearing seal for a bearing assembly in a rotating shaft assembly.	05-05-90	33/00, 33/72.	15-C; D.	FC.
166564	16-12-85	1.AE PLC. 2. DRESSER INDUSTRIES INC.	The process for the production of a bearing.	09-06-90	33/00.	15-C	FC.
166626	04-05-87	HOESCH AKTIEN GESELLSCHAFT.	Centre-free large antifriction bearing with integrated electrical direct drive.	23-06-90	19/00.	15-D	FC.
166867	17-03-86	CATERPILLAR TRACTOR CO.	A bearing race retention device and a method of manufacturing it.	28-07-90	27/00.	15-D-Group-LIV(1).	FC.
167059	30-11-84	RELIANCE ELECTRIC COMPANY.	A bearing lubrication device.	25-08-90	33/10.	120-C. 1-Group-LIV(2)	FC.
167104	11-08-87	EMERSON ELECTRIC CO.	Improved bearing retainer structure.	01-09-90	33/00.	15-D	FC.
167182	14-03-86	AEPLC.	A composition for a plain bearing material.	15-09-90	33/12.	15-D-Group-LIV(1).	FC.
167277	02-05-86	MICHELE RATTI S.P.A.	Two-for-one twisting spindle for yarns.	29-09-90	35/12.	172-D <sub>3</sub> -Group-XX.	FC.
167331	11-04-86	CATERPILLAR TRACTOR CO.	A flexible annular seal assembly.	06-10-90	33/72.	15-D-Group-LIV(1).	FC.
167454	22-05-86	AE PLC.	A process for the production of an aluminium-based bearing alloy.	27-10-90	33/12.	15-D & 9-F. Group-LIV(1) & XXXIX(1).	FC.
167733	10-02-87	RELIANCE ELECTRICAL COMPANY.	A bearing.	15-12-90	13/02, 13/04.	15-C-LIV(1).	FC.
167866	17-09-87	EMITEC GESELISCHAFT FÜR EMISSIONS TECHNOLOGIE M.B.H.	Process for producing an assembled camshaft.	29-12-90	3/00.	107-K	FC.
<b>F 16 D : Couplings; Clutches; Brakes</b>							
165771	01-08-85	AKEBONO BRAKE INDUSTRY CO. LTD.	An autoadjuster device for drum brake.	06-01-90	65/12.	24-F.	FC.
165773	20-08-85	AKEBONO BRAKE INDUSTRY CO. LTD.	Strut type autoadjustable device of clearance for drum brake.	06-01-90	65/38.	24-F. ¶	FC.
165774	20-08-85	AKEBONO BRAKE INDUSTRY CO. LTD.	Strut type clearance adjustable device for a drum brake.	06-01-90	65/38.	24-F.	FC.



1	2	3	4	5	6	7	8
165775	20-08-85	AKEBONO BRAKE INDUSTRY CO. LTD.	External type auto-adjustable device of clearance for drum brake.	06-01-90	65/38.	24-F.	FC.
165800	10-12-86	ROCKWELL GOLDE GMBH.	Automobile drum brake of the simplex type.	13-01-90	51/00.	24-F.	FC.
165811	03-10-85	AKEBONO-BRAKE INDUSTRY CO. LTD.	A device for integration boot piston into disk brake.	20-01-90	55/00.	24 E, F.	FC.
165871	30-07-85	AKEBONO BRAKE INDUSTRY CO. LTD.	Wedge-shaped brake actuating device.	03-02-90	65/14, 65/32.	24 E, F.	FC.
165963	03-10-85	AKEBONO BRAKE INDUSTRY CO. LTD.	External type autoadjuster mechanism for a drum brake.	17-02-90	65/38.	24 F.	FC.
166014	28-08-85	HACKFORTH GMBH & CO. KG.	Highly resilient shaft coupling.	24-02-90	3/00.	127 B, I.	FC.
166056	16-01-86	LUCAS INDUSTRIES PUBLIC LIMITED COMPANY.	A self-energising disc brake for a vehicle.	03-03-90	65/14.	24 B, F.	FC.
166298	07-11-85	LUCAS INDUSTRIES PUBLIC LIMITED COMPANY.	An adjustable brake actuator, especially for vehicle drum brakes.	07-04-90	65/14.	24-F.	FC.
166349	28-10-85	INTERNATIONAL BUSINESS MACHINES CORPORATION	A spindle shaft rotatably mounted by axially spaced apart bearing assemblies.	14-04-90	7/00.	127-B.	FC.
166521	18-10-85	KOTHAPALLI VENKATA SURYA TIRUPATHI RAJU.	A power transmission device.	26-05-90	3/00, 11/00, 13/00, 47/00.	127 G, I.	I.
166618	09-12-86	EATON CORPORATION.	A clutch control system.	16-06-90	23/00.	127-A	FC.
166739	05-05-86	ALLIED CORPORATION.	Clutch mechanism having improved lubricating oil distribution means and for connecting a vehicle air compressor to a vehicle engine.	14-07-90	31/00.	134-B, 24-D.4.	FC.
166925	31-01-86	LUCAS INDUSTRIES PUBLIC LIMITED COMPANY.	Improvement in self energising disc brakes.	04-08-90	55/00, 65/14.	24-B & F, Group-LV.	FC.
167142	24-03-86	GENERAL MOTORS CORPORATION.	A spline connection assembly for stationary and rotating clutches.	08-09-90	13/10.	134-B & 127-A, Groups-LII(1) & LXV(1)	FC.
167153	26-03-87	VOITH TUBRO GMBH & CO.	Hydrodynamic coupling.	08-09-90	31/00.	101-F	FC.
167252	14-05-86	LUCAS INDUSTRIES PUBLIC LIMITED COMPANY.	A drum brake comprising three brake shoes.	29-09-90	51/34.	24-B-Group -LV.	FC.
167507	19-12-85	THE JOHNSON CORPORATION.	A rotary coupling for direct engagement on one hand with the end face of the journal of a rotary heat exchanging drum and on the other hand with a fluid supply or exhaust and drainage system.	10-11-90	3/00.	163-D-XLIV (3).	FC.

1	2	3	4	5	6	7	8
167530	23-01-89	DEORAM KHAN-DUJI THORAT	An improved flexible coupling.	10-11-90	3/58.	127-I-LXV(1)	I
167545	08-07-86	DANA CORPORATION	A push-type friction disc clutch assembly.	10-11-90	13/00, 13/34	127-A-Group -LXV(1).	FC
167547	07-11-86	HACKFORTH GMBH & CO. KG.	A resilient shaft coupling.	10-11-90	3/58.	127-I-Group-LXV(1).	FC
167583	02-07-86	FERODO LIMITED	Driven plate for a clutch and method for the manufacture of such driven plate.	17-11-90	13/00.	144-E, 127-A	IC
167591	28-08-86	LUCAS INDUSTRIES PUBLIC LIMITED COMPANY	Improvements relating to wheel mounted braking discs.	17-11-90	65/12.	24-P & F-Group-LV.	FC
167602	28-08-86	LUCAS INDUSTRIES PUBLIC LIMITED COMPANY	Improvements relating to wheel mounted braking discs	24-11-90	65/12.	24-B & F-Group-LV	FC

**F 16 F : Springs; Shock-absorbers; Means for damping vibration.**

166657	27-05-86	MAGNUS LIZELL	A restriction valve device for hydraulic fluids in vehicle shock absorbing mechanisms.	30-06-90	9/00.	174-F	F
167077	29-04-87	YUN-TE CHANGE	The balancing device for the cutting mechanism of the cold forged machine.	25-08-90	15/28.	127-I	F.
167278	07-05-86	BBC BROWN BOVERI LTD.	Driving element for independent turbomachines blades.	29-09-90	15/20.	190-B-GROUP-XL-IV (4).	FC.
167386	26-05-86	MITSUBISHI DENKI KABUSHIKI KAISHA.	An improved hydraulic shock absorber.	20-10-90	9/06	174-F-GROUP-LII (4).	FC.
167408	02-06-86	MITSUBISHI DENKI KABUSHIKI KAISHA.	Shock absorbers having means for preventing foaming.	20-10-90	9/34	174-B-GROUP-LII (4).	FB.

**F 16 G : Belts, cables, or ropes, predominantly use for driving purposes; Chains; Fittings predominantly used therefor.**

166115	22-05-87	KABELSCHLEPP GMBH.	A carrier for energy lines and other supply lines.	17-03-90	15/12.	68B-LVII (3).	FC.
166263	10-02-86	MITSUBOSHI BELTING LTD.	A timing belt with controlled friction packside ribs.	07-04-90	1/28.	127-C	FC.
167282	27-05-86	MITSUBOSHI BELTING LTD.	Power transmission belt.	29-09-90	1/08.	127-C-Group-LXV (1).	FC.
167406	27-05-86	MITSUBOSHI BELTING LTD.	Method of making an impact-resistant power transmission belt and an impact-resistant power transmission belt thereof.	20-10-90	1/08.	127-C Group-LXV (1).	FC.
167433	18-04-86	MITSUBOSHI BELTING LTD.	V-Belt for high load power transmission.	27-10-90	5/08.	127-C-Group-LXV (1).	FC.
167445	27-05-86	RAYCHEM CORPORATION.	Method of making a cable assembly and cable assembly thereof.	27-10-90	11/00.	150-G-Group XLVIII (1).	FC.

1	2	3	4	5	6	7	8
F 16 H : Gearing							
165745	27-05-86	"NEYPRIC"	Chain for driving water on a vertical axis kaplan water turbine.	06-01-90	41/26.	90-C, 102-D.	FC.
165901	08-07-86	EATON CORPORATION.	Ring gear/pinion gear drive gear sets.	10-02-90	3/00.	127-G	FC.
166238	20-11-85	FESTO KG.	A fluid operated oscillating piston motor.	31-03-90	39/00.	102-D.	FC.
166387	25-07-86	CHAMPION SPARK PLUG EUROPE S.A.	A connecting device for a wiper system.	09-06-90	21/02.	127-H	FC.
166841	20-01-87	EATON CORPORATION.	A combined range and splitter type auxiliary transmission section for compound change gear transmissions.	28-07-90	3/00, 5/00.	127-E, F, G, I.	FC.
166981	08-01-86	MITSUBOSHI BELTING LTD.	An improved variable speed pulley system.	18-08-90	55/56.	127-C & D, LXV (1).	FC.
167414	09-05-88	RAMESH BHOGILAL PARIKH, NIKHIL RAMESH PARIKH, RAJUL RAMESH PARIKH & SUDHIR RAMESH PARIKH.	Mechanism for uni-directional rotation of a shaft.	20-10-90	55/00.	127-I-LXV (1)	I.
167574	12-05-86	MIYUBISHI DENKI KABUSHIKI KAISHA.	Spring operating mechanism for a circuit interrupter.	08-12-90	29/02.	127 D & H, Group-LXV (1), 135 + Group-LXV (2), 69G- Group-LIX(1).	FC.
167866	17-03-87	EMITEC GESELLSCHAFT FUR EMISSIONS TECHNOLOGIE MBH.	Process for producing an assembled camshaft.	29-12-90	53/00.	107-K.	FC.
F 16 J : Pistons; Cylinders, Pressure vessels, in general; Sealings.							
165898	21-02-86	SANDEN CORPORATION.	A refrigerant compressor.	03-02-90	9/00.	50-E <sub>2</sub>	FC.
166106	05-05-86	FLEXITALLIC LIMITED.	A method and apparatus of producing a spiral wound gasket and a gasket so produced.	17-03-90	15/00, 15/06 & 15/08.	175-F	FC.
166166	01-10-86	ARROW OIL TOOLS INC.	A sealing packer for down hole placement within a well casing.	24-03-90	15/02, 15/18	181-XLV (6)	FC.
166369	28-02-86	IMPERIAL CLEVITE INC.	Cast metal composite article.	21-04-90	1/00.	33-A; 107-C.	FC.
166468	05-03-87	MICRODOT INC.	A composite seal assembly.	19-05-90	15/00.	102-D.	FC.
166621	30-12-86	WARMAN INTERNATIONAL LTD.	A centrifugal sealing member and a centrifugal seal assembly.	23-06-90	15/00.	181.	FC.
166645	18-11-85	FESTO K.G.	Pneumatic or hydraulic assembly.	30-06-90	10/02.	102-D.	FC.
167567	10-09-87	DYCKERHOFF & WIDMANN AKTIENGESELLSCHAFT.	A pressure vessel for the storage, production or conveyance of uncompresssed cold gases or gases compressed until liquefaction.	17-11-90	12/00.	179-G.	FC.

1	2	3	4	5	6	7	8
167664	19-09-86	BW/IP INTERNATIONAL INC.	Adaptive control system for mechanical seal.	01-12-90	15/00.	181-XLV (3).	FC.
167362	13-07-87	JEAN FREDERIC MELCHIOR.	Piston for reciprocating machines employing a compression of a gaseous fluid and machines provided with such a piston.	29-12-90	1/00.	107-G: 175-H.	F.
<b>F 16 K : Valves; Taps; Cocks; Actuating-floats; Devices for venting or aerating</b>							
165856	28-02-86	WHITE CONSOLIDATED INDUSTRIES, INC.	A high pressure quarter turn butterfly control valve.	27-01-90	1/06, 1/08, 1/10, 1/18, 1/22, 1/30.	195-C, G.	FC.
165869	02-04-86	WESTINGHOUSE ELECTRIC CORPORATION.	Valve for a steam turbine and method of its manufacture.	03-02-90	25/00.	195-D.	FC.
165937	31-03-86	DONALD HUGH CAMPBELL MAC-KAY.	Equalizing valve assembly for regulating water flow in a water supply system.	10-02-90	21/00.	195-GB, 200-C.	F.
166020	09-09-85	SEREG.	A globe valve having a dismountable seat for rapid maintenance.	24-02-90	1/12.	195-D.	FC.
155333	19-04-88	SATIS CHANDRA NIRMALL.	A fluid discharge control valve.	03-03-90	11/00.	195-D.	I.
166092	05-02-86	UPO INC.	Axial multiport rotary valve for accomplishing the simultaneous interconnection of a plurality of conduits.	10-03-90	19/00, 23/00.	195-G.	FC.
165248	30-07-86	ROCKWELL INTERNATIONAL CORPORATION.	A tapered plug valve having an improved stem, seal.	31-03-90	41/00.	195-G.	FC.
166358	26-02-86	BENDIX LIMITED.	Two circuit fluid pressure control valves.	14-04-90	11/02. 31/143.	195-C, 133-A, 24-D.	FC.
155333	19-03-86	SURENDRA SINGH RANDHIR CHAUHAN.	An improved ball-cock for water tanks and cisterns.	28-04-90	15/00, 33/00.	195-A.	I.
166461	03-12-86	KLINGER AG.	A method for producing a sealing ring for installation in a shut off valve and a shut off valve provided with a sealing ring produced thereby.	19-05-90	1/26.	195-D.	FC.
155550	20-05-86	WHITE CONSOLIDATED INDUSTRIES INC.	Valve having a high performance seal.	30-06-90	1/22.	195-D.	FC.
166705	05-01-87	KLEIN, SCHANZLIN & BECKER AKTIE-GESELLSCHAFT.	A shut off butterfly fly.	07-07-90	51/00.	195-B, D.	FC.
165743	22-12-86	DAVID GODFREY WILLIAMS AND MICHAEL ROUTLEDGE.	A valve component for a frictionless guided valve.	14-07-90	25/00.	107-K— XLVI(2).	F.
155310	26-11-87	NIRMAL PANNALAL.	Water-preventing fuel-cut-off device.	21-07-90	33/00.	195-A, D.	I.

1	2	3	4	5	6	7	8
166816	07-03-86	CROSBY VALVE & GAGE COMPANY.	A pilot operated pressure relief valve system.	21-07-90	17/04.	195-B—GROUP-XXIX(3).	FC.
167170	13-05-88	HITACHI CONSTRUCTION MACHINERY CO. LTD.	Flow control valve apparatus.	15-09-90	21/00.	195-D-	FC.
167183	14-03-86	BRITISH STEEL PLC.	An outlet valve for a melt containing vessel.	15-09-90	1/08.	195-D—GROUP-XXIX(3).	FC.
167246	17-04-86	RUHRGAS AKTIEN-GESELLSCHAFT.	A pneumatic cycle timing device for using with appliances such as a cooker or a heater.	29-09-90	7/07.	195-B—GROUP-XXIX(3)	FC.
167375	14-04-87	HOERBIGER VENTILWERKE AKTIEN-GESELLSCHAFT.	A compressor valve for varying operating conditions of the compressor.	20-10-90	31/00.	6-A <sub>2</sub> .	FC.
167410	06-06-86	FORSAC VALVES LIMITED.	Valve assembly for pipeline.	20-10-90	15/00.	195-A & D—GROUP-XXIX(3).	FC.
167485	23-08-86	OIL & NATURAL GAS COMMISSION.	A gas lift valve for use in oil wells.	10-11-90	15/00.	195-D, E.	IC.
167582	02-07-86	UOP INC.	Multiport valve.	17-11-90	11/00.	195-E.	FC.
167639	21-07-86	ALLUMINIUM PECHINEY.	ROTARY SWITCHING device having a conical chamber.	24-11-90	11/00.	195-D—GROUP-XXIX(3).	FC.
167777	17-10-88	NIRMAL PANNA-LAL.	Water tap for community water supply.	22-12-90	1/00.	195-C—XXIX(3).	I.
167780	03-05-89	RADHEY MOHAN SRIVASTAVA.	Self closing water tap with automatic hydrant sealing device.	22-12-90	15/18.	195-G—XXIX.	I.
167857	15-10-86	LAJOS SZEKELY. ATTILA HAMORI. MIKLOS VIDA.	Quick-action valve with valve body and flap for pipes delivering liquid or gaseous medium.	29-12-90	21/00.	195-B—XXIX(3).	F.
<b>F 16 L : Pipes; Joints or fittings for pipes; supports for pipes or cables; Means for thermal insulation in general</b>							
165833	13-08-85	PONT-A-MOUSSON S.A.	A jointed pipe male and socket ends.	20-01-90	21/00.	150-F.	FC.
166016	05-09-85	KUBOTA LTD.	A pipe joint.	24-02-90	21/00.	150-F.	FC.
166790	09-09-88	PRADEEP VASANT GARUDE.	A leak proof swivel pipe or hose joint particularly for use in a petrol pump.	14-07-90	27/08.	150-B; 125-XLI(8); 125-B4; 156F-XLVII(3).	I.
166872	19-10-87	GEORG FISCHER AG.	Pipe connecting member of plastics material.	28-07-90	19/00, 21/00.	150-A, C.	FC.
166893	07-02-86	THE BRITISH PETROLEUM COMPANY P.L.C.	A manipulative device for remote operation.	04-08-90	15/00, 27/00.	71-F. GROUP-XXVIII(1) XXVIII(1).	FC.
167122	24-02-86	JAMES C. ROBERTS.	A tubing structure for drip irrigation and a method of making the same.	01-09-90	11/04.	5-B—1(1).	F.

1	2	3	4	5	6	7	8
167508	19-12-85	THE JOHNSON CORPORATION.	A rotary joint for use with a rotary heat exchanger drum.	10-11-90	37/00	163-D	FC.
167729	17-12-87	HYDERABAD INDUSTRIES LTD.	Improvements in or relating to cast iron detachable joints for joining pipes particularly pressure pipes like fibre cement pipes, cast iron pipes and the like.	15-12-90	25/00	150-C	IC.
<b>F 16 N : Lubricating</b>							
167356	20-04-87	CARRIER CORPORATION.	An improved oil lubrication and noise suppression system.	13-10-90	7/36	120-B <sub>1</sub>	FC.
<b>F 16 P : Safety devices in general</b>							
165926	27-06-84	THE BABCOCK & WILCOX COMPANY.	Safety system for coal pulverizers.	10-02-90	3/00, 3/20.	94-G.	FC.
166114	28-04-87	SHAMRAO BHANU-DAS PARHATE.	Automatic arc welding spark protector for welders.	17-03-90	1/06.	60-C-LXVI (3) 129 Q- XXXV.	I.
166548	27-06-84	THE BABCOCK & WILCOX COMPANY.	Safety system for coal pulverizers.	02-06-90	3/00, 3/20.	94-G.	FC.
<b>F 16 S : Constructional elements in general; Structures built-up from such elements, in general</b>							
166533	06-01-87	HANS SPELTEN FRANKSTR.	Structural bar.	26-05-90	3/00.	27-G, I	F.
<b>F 17 : STORING OR DISTRIBUTING GASES OR LIQUIDS</b>							
<b>F 17 C : Vessels for containing or storing compressed, liquefied, or solidified gases; Fixed capacity gas-holders; Filling vessels, with, or discharging from vessels, compressed, liquefied, or solidified gases.</b>							
166151	16-09-87	HARISCHANDRA KESARINATH MHATRE & KANCHAN HARISCHANDRA MHATRE.	A gas pressure regulator with interlockable latching means.	24-03-90	1/00.	6-B- XLVII(1).	I.
166604	10-12-85	V M E I "LENIN".	A device for interrupting the ARC discharges in a gas-discharge vessel.	09-06-90	13/12.	65-A <sub>2</sub>	FC.
166661	08-07-86	BP CHEMICALS LIMITED.	Fluidised bed apparatus.	30-06-90	5/00.	88-DE.	FC.
167589	11-12-86	BAL KRISHAN GUPTA.	Cylinder valve tester for self closing pin type LP gas cylinder valve.	17-11-90	13/02.	89-XLI.	I.
<b>F 21 : LIGHTING</b>							
<b>F 21 H : Mantles; Other incandescent bodies heated by combustion</b>							
166289	29-08-84	TPV ENERGY SYSTEMS, INC.	A thermophotovoltaic device.	07-04-90	1/00; 3/00.	66-D9- LXIII(1)	FC.
166290	29-08-84	TPV ENERGY SYSTEMS, INC.	A thermophotovoltaic device.	07-04-90	1/00, 3/00.	66-D9	FC.

1	2	3	4	5	6	7	8
<b>F 21 V : Details of lighting devices, of general application</b>							
165505	03-12-85	GLOBETECH LIMITED.	Display device.	09-06-90	9/16.	121-GROUP-LXIII (2).	FC.
<b>F 22 : STEAM GENERATION</b>							
<b>F 22 B : Methods of steam generation; steam boilers</b>							
165759	05-05-86	BHARAT HEAVY ELECTRICALS LTD.	Fluidised combustion bed boilers.	06-01-90	1/00.	176 F I-XLV(4), 85 I J, K-XXXI.	IC.
165934	24-02-86	VAPOR CORPORATION.	Electrode boiler of the water jet electrode type.	24-02-90	1/30.	176-IXLV(4)	FC.
166010	19-02-86	VAPOR CORPORATION.	Electric boiler in combination with a controller of controlling steam generation of the boiler.	24-02-90	1/30.	176-1-XLV(4).	FC.
165458	24-06-86	SULZER BROTHERS LIMITED.	A fossil-fuel-fired vapour producer.	12-05-90	11/00.	177-F.	FC.
167123	18-06-86	PONNUSWAMY RAVINDRA KUMAR	Multipurpose steam generator-cum-geyser.	01-09-90	23/00.	98-C-GROUP-VII (2).	I.
<b>F 22 D : Preheating, or accumulating preheated, feed-water; Feed-water supply; Controlling, water level; Circulating water within boilers</b>							
167345	05-02-87	KALBAG NAGESH.	A culinary vessel of improved thermal efficiency.	13-10-90	1/08.7	99-A-GROUP-XL (4).	I.
<b>F 22 G : Superheating of steam</b>							
167568	13-11-87	THE BABCOCK & WILCOX COMPANY.	A Steam temperature Control System.	17-11-90	5/12.	175-I & G.	FC.
<b>F 23 : COMBUSTION APPARATUS; COMBUSTION PROCESS</b>							
<b>F 23 B : Combustion apparatus using only solid fuel</b>							
165916	29-08-86	SULZER BROTHER LIMITED.	A solid fuel fired vapour producer.	10-02-90	1/00, 1/30.	84-A.	FC.
166715	07-12-87	WESTINGHOUSE ELECTRIC CORPORATION.	Feeding arrangement for rotary combustor.	14-07-90	1/32.	85-Q.	FC.
<b>F 23 C : Combustion apparatus using fluent fuel</b>							
166347	25-10-85	TRW INC.	An apparatus for recovery of sulfur from a particulate sulfur-containing carbonaceous material.	14-04-90	1/00.	32-F <sub>4</sub> , 139-G.	FC.
166348	25-10-85	TRW INC.	Apparatus for the combustion of comminuted solid carbonaceous fuel and separation of the non-combustibles present in the fuel from the gaseous products of combustion.	14-04-90	1/00.	32-C.	FC.

1	2	3	4	5	6	7	8
166694	13-03-86	DR. C. OTTO & COMP. GMBH.	Method and plant for manufacturing fuel from thick tar separated from coke oven gas collected in thick tar separators during cooling of the said gas.	30-06-90	1/10.	84C <sub>1</sub>	FC.
<b>F 23 D : Burners</b>							
166035	27-03-87	METALLGESELLSCHAFT AKTIENGESELLSCHAFT.	Adjustable burner assembly.	03-03-90	21/00.	28-C.	FC.
166066	15-06-87	ALUMINIUM PECHINEY.	Pipes having orientable nipples for furnaces for firing carbonaceous blocks.	10-03-90	3/00.	28-B, 70-B.	FC.
166091	15-04-85	BHARAT HEAVY ELECTRICALS LIMITED.	Coal nozzles for steam boilers or generators fired with coal dust air mixture.	10-3-90	14/00.	176-I.	IC.
166100	15-04-85	BHARAT HEAVY ELECTRICALS LIMITED	Coal nozzles for steam boilers or generators fired with coal dust burners.	10-03-90	14/00.	176-I.	IC.
166343	25-10-85	TRW INC.	An injector for injection of an atomized slurry of particulate carbonaceous material.	14-04-90	17/00.	106	FC.
166346	25-10-85	TRW INC.	An improved fuel injector for a combustion apparatus.	14-04-90	17/00.	106.	FC.
166765	25-06-87	1. DR. PHAROKH DHUNJISHAW SUNAVALA. 2. INDIAN INSTITUTE OF TECHNOLOGY.	Diffusion flame submerged combustion burner.	14-07-90	14/12.	28-C.	I, IC
167016	25-08-86	BHARAT HEAVY ELECTRICALS LTD.	A burner for burning a low calorific value gas.	18-08-90	21/00.	28-F	IC.
167217	07-04-86	THE DOW CHEMICAL COMPANY.	A burner nozzle for a free flowing hollow reactor to make a gas mixture containing hydrogen and carbon monoxide.	22-09-90	1/00, 17/00.	28-B GROUP-XXX (1).	FC.
167334	29-04-86	CHARBONNAGES DE FRANCE.	Turbulent flow burner for fluid fuel combustion.	06-10-90	1/02.	28-B GROUP-XXX (1).	FC.
167458	22-07-86	BBC BROWN BOVERI LTD.	An improved dual burner.	27-10-90	17/00.	28-B, F- GROUP-XXX (1).	FC.
<b>F 23 G ; Cremation furnaces ; Consuming waste by combustion.</b>							
166312	23-07-86	COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH.	An improved solid waste incinerator.	07-04-90	5/00.	85 A & G.	IC.
166703	08-12-86	SONEX RESEARCH INC.	Method and apparatus for disposal of toxic wastes specifically halogenated hydrocarbons by combustion.	07-07-90	7/00.	85C+85A+ 107C+G	FC.
167789	05-02-88	WESTINGHOUSE ELECTRIC CORPORATION	A rotary combustor for burning solid municipal waste.	27-12-90	5/00	85-A ; G	FC.



1	2	3	4	5	6	7	8
<b>F 23 J : Removal or treatment of combustion products or combustion residues : Flues.</b>							
166817	12-10-87	SATISH DAMODAR TANKSALE	A fly ash arrester for boilers.	21-07-90	3/04, 3/94, 3/06, 3/00.	176A+I; 37A, 6A <sub>2</sub> + 6B <sub>3</sub> .	I.
167343	13-06-86	F. L. SMIDTH & CO. A/S.	Probe for extracting a gas sample flow from a hot dusty gas flow.	13-10-90	11/00.	85-J— GROUP- XXXI.	FC.
167432	17-04-86	F. L. SMIDTH & CO. A/S.	Apparatus for producing clinker such as cement clinker.	27-10-90	15/00.	85-H— GROUP- XXXI.	FC.
167572	24-06-86	POLITECHNIKA ŚLĄSKA IM WINCENTEGO PSTROWSKIEGO UL. KRZYWOUSTEGO.	An apparatus for transportation of furnace wastes to a dumping place.	17-11-90	1/02.	85-J GROUP- XXXI.	FC.
<b>F 23 K : Feeding fuel to combustion apparatus.</b>							
166843	18-02-87	TEXACO DEVELOPMENT CORPORATION.	An improved method for producing an aqueous slurry comprising solid carbonaceous fuel and recycle carbon containing particulate solids of a desired solids concentration.	28-07-90	1/02.	107-G.	FC.
167034	21-07-86	GENERAL SIGNAL CORPORATION.	Gravimetric feeder apparatus for feeding particulate materials at a feed rate in terms of weight per unit time.	18-08-90	1/02.	47-C.	FC.
167081	27-01-86	JYDSK VARMEKE-DELFABRIK A/S.	Stoking plant for fuel in whole bales.	25-08-90	3/18.	85-C.	FC.
167190	08-04-86	SNAMPROGETTI S.P.A.	A process for preparing stable aqueous combustible slurries.	15-09-90	1/02.	84-C(1)— GROUP- XXXI	FC.
<b>F 23 N : Regulating or controlling combustion.</b>							
166277	03-10-85	GASPOWER INTERNATIONAL LIMITED	Fuel control system for a compression ignition engine.	07-04-90	5/00. 5/20.	107-G.	FC.
167646	05-06-87	ALUMINIUM PECHINEY	Apparatus for optimising combustion in a chamber furnace.	01-12-90	5/00	70-B, 85-J.	FC.
<b>F 23 Q : Ignition ; Extinguishing devices.</b>							
165889	21-04-87	BREVAL S. A.	Controlled flow liquified gas igniter.	03-02-90	13/00.	85-I	FC.
<b>F 23 R: Generating combustion products of high pressure or high velocity, e.g. gas-turbine combustion chambers.</b>							
166066	15-06-87	ALUMINIUM PECHINEY	Pipes having orientable nipples for furnaces for firing carbonaceous blocks.	10-03-90	3/00.	85-J	FC.
166703	08-12-86	SONEX RESEARCH INC.	Method and apparatus for disposal of toxic wastes specifically halogenated hydro carbons by combustion.	07-07-90	3/00.	28C+39A+ 107C+G	FC.

1	2	3	4	5	6	7	8
<b>F 24 : HEATING; RANGES; VENTILATING.</b>							
<b>F 24 B : Domestic stoves or ranges for solid fuels</b>							
166168	05-11-86	COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH	Multi fuel domestic chulha for efficient burning of different types of solid fuels	24-03-90	1/00.	180	IC.
166957	09-04-86	1. HANASOGE SURYA NARAYANA AVADHANI MUKUNDA. 2. UDUPI SRINIVASA. 3. INDIAN INSTITUTE OF SCIENCES	A grateless wood stove.	11-08-90	1/18.	180-Group-XV(2)	I, IC.
<b>F 24 C : Other domestic stoves or ranges; Details of domestic stoves or ranges, of general application.</b>							
165799	25-11-86	ASIM KUMAR GOSWAMI	Improvements in or relating to burner assembly for domestic wick stove.	13-01-90	1/00, 5/00, 5/04, 5/10	180.	I.
166189	24-07-87	GOPI KISHAN KABRA	A gas lamp lighted by an electronic lighter.	24-03-90	3/00.	98 D&E	I.
<b>F 24 F : Air conditioning; Air-humidification; Ventilation; Use of air currents for screening.</b>							
165992	29-01-86	SANDEN CORPORATION	Improved swash plate compressor incorporating a device for detecting rotational speed.	24-02-90	5/00.	134-A, 50-D.	FC.
166008	29-01-86	SANDEN CORPORATION]	Device for controlling the capacity of a variable capacity compressor.	24-02-90	5/00.	50-F.	FC.
166078	11-03-88	DHONDAPPA MALKAPPA BIRADAR	An improved swivelling type humidifier.	10-03-90	3/14.	196-B <sub>1</sub>	I.
166273	17-09-85	TAKASAGO THERMAL ENGINEERING CO. LTD.	A method of constructing a clean room.	07-04-90	1/01.	27-1	FC.
166389	29-08-86	DRICON AIR PTY. LTD.	An apparatus for air conditioning.	28-04-90	3/00.	196-B <sub>1</sub>	FC.
165727	17-09-86	RAM NARAIN KHER	An improved air cooler.	14-07-90	3/14, 6/12	50-D	I.
167573	15-07-86	ATLAS AIR AUSTRALIA PTY. LIMITED.	Improved air vent for air conditioning systems.	17-11-90	13/08	50—D— Group-VII(1)	FC.
<b>F 24 H : Fluid heaters, e.g. water or air heaters, having heat-generating means in general.</b>							
166303	12-03-87	YASHWANT SHRIPAD BARVE.	An improved geyser.	07-04-90	1/10.	97-C-LIX(2)	I.
167123	18-06-86	PONNUSWAMY RAVINDRA KUMAR.	Multipurpose steam generator-cum-geyser.	01-09-90	1/00.	98-C-Group VII(2)	I.

1	2	3	4	5	6	7	8
<b>F 24 J : Production or use of heat not otherwise provided for</b>							
166333	19-11-85	K. AND K. HOLDINGS PTY. LTD.	Solar water heater.	14-04-90	2/34.	98-L.	FC.
166659	20-06-86	TATA ENERGY RESEARCH INSTITUTE.	A solar energy collector.	30-06-90	2/02.	98-E.	IC.
166746	23-12-86	POWER KINETICS INC.	Concave mirror assembly and method of manufacturing same.	14-07-90	2/52.	146-D <sub>1</sub>	FC.
166755	05-03-82	ENERGY CONVERSION DEVICES INC.	A system for the continuous production of semiconductor devices.	14-07-90	3/02.	98-I, 206-E.	FC.
167004	04-04-86	MOBIL SOLAR ENERGY CORPORATION.	A method of manufacturing solid state electronic devices.	18-08-90	3/02.	98-I.	FC.
167111	12-02-85	SOHIO COMMERCIAL DEVELOPMENT COMPANY. AND BP PHOTOVOLTAICS.	A method of manufacturing a film of Hg <sub>1-x</sub> Cd <sub>x</sub> te, on a conductive substrate.	01-09-90	3/02.	98-I & 194-C <sub>8</sub>	FC.
167206	12-02-85	SOHIO COMMERCIAL DEVELOPMENT COMPANY. AND BP PHOTOVOLTAICS LIMITED.	A solar cell.	22-09-90	3/02.	194C & 98-I <sub>8</sub> .	FC.
167452	21-08-87	BENNE NARASIMHAMURTHY SRIDHARA.	A solar energy linear concentrator and a method of manufacturing the same.	27-10-90	2/16.	98-I-Group-VII(2).	I.
167453	21-08-87	BENNE NARASIMHAMURTHY SRIDHARA.	A solar energy linear concentrator and a method of manufacturing the same.	27-10-90	2/16.	98-I-Group-VII(2).	I.
<b>F 25 : REFRIGERATION OR COOLING; MANUFACTURE OR STORAGE OF ICE; LIQUEFACTION OR SOLIDIFICATION OF GASES.</b>							
<b>F 25 B : Refrigeration machines, plants, or systems; Combined heating and refrigeration systems, e.g. heat-pump systems.</b>							
165913	29-05-86	SANDEN CORPORATION.	Wobble plate type compressor.	10-02-90	9/00.	156A, 6A <sub>3</sub> .	FC.
165951	27-01-86	SANDEN CORPORATION.	Capacity variable type compressor.	17-02-90	31/00.	6A <sub>3</sub> , 163B <sub>3</sub> .	FC.
165938	29-01-86	SANDEN CORPORATION	Device for controlling the capacity of a variable capacity compressor.	24-02-90	31/00.	50-F.	FC.
166110	03-06-86	SANDEN CORPORATION.	A refrigerant compressor.	17-03-90	1/02.	50-E <sub>2</sub> .	FC.
166319	13-11-86	SANDEN CORPORATION.	Wobble plate type compressor with variable capacity mechanism.	07-04-90	1/04	6-A.	FC.
166445	21-10-86	I. R.E. INDUSTRIE RIUNITE EURODOMESTICI S.P.A.	Method for producing domestic refrigerator evaporators and the evaporator obtained by the method.	12-05-90	39/02.	50-B & 50-D.	FC.
166451	25-02-86	SANDEN CORPORATION.	Construction for placement of gasket in refrigeration compressor.	12-05-90	31/00.	175-F, 6-A2.	FC.

1	2	3	4	5	6	7	8
166639	05-12-86	PROIZVODSTVEN- NOE OBIE DINENIE "NEVSKY ZAVOD" IMENI V.I. LENINA.	Impeller of centrifugal compressor.	30-06-90	31/00.	36-A <sub>3</sub>	FC.
167585	14-07-86	L'AIR LIQUIDE, SOCIETE ANONY- ME POUR L'ETUDE ET L'EXPLOITA- TION DES PRO- CEDES GEORGES CLAUDE.	Process for cryogenic air separation into its component gases and an air distillation system for carrying out the process.	17-11-90	3/00.	6-B I.	FC.

**F 25 D : Refrigerators; Cold rooms; Ice-boxes; Cooling or freezing apparatus not covered by any other subclass.**

166424	23-10-86	RESEARCH-COTT- RELL, INC.	Crossflow cooling tower splash bar.	05-05-90	17/00.	50-B.	FC.
166430	20-11-86	FRANZ WELZ IN- TERNATIONALE TRANSPORT GESE- LLSCHAFT MIT BE- SCHRANKTER HAFTUNG.	Transportable refrigerating container.	05-05-90	31/00.	50-F.	FC.
167299	27-04-88	VOLTAS LIMITED.	An ice-lined refrigerator.	06-10-90	15/00.	50-D + F- VII(1).	IC.

**F 25 J : Liquefaction, solidification, or separation of gases or gaseous mixtures by pressure and cold treatment.**

165958	07-01-86	IMPERIAL CHEMI- CAL INDUSTRIES PLC.	Apparatus for effecting direct contact between a gas and a liquid.	17-02-90	1/00.	84-B.	FC.
166543	15-11-85	LINDE AKTIENGE- SELLSCHAFT.	An improved process for the separa- tion of C <sub>2</sub> + hydrocarbon fraction from natural gas.	30-06-90	3/02.	32-C.	FC.

**F 26 : DRYING**

**F 26 B : Drying solid materials or objects by removing liquid therefrom.**

165828	08-05-87	INDIAN INSTITUTE OF TECHNOLOGY, AND AMALENDU CHAKRABORTY. SUSANTA KUMAR DAS.	A process and an apparatus for obta- ining dried storage agricultural pro- ducts particularly cereals and pulses and other similar materials such as millets using renewable sources of energy.	20-01-90	3/00.	61-H.	IC, I.
166036	30-04-87	1. INSTITUT PRO- BLEM MEKHANIKI AKADEMI NAUK USSR, PROSPEKT VERNADSKOGO. 2. VSESOUJZNY NAUCHNO ISSLE- DOVATELSKY INS- TITUT KOMPLEX- NOGO ISPOLZOVA- NIA MOLOCHNOGO SYRYA.	Method and apparatus for drying ther- mosensitive materials.	03-03-90	3/12, 3/16, 17/00, 17/14.	61-A; K.	FC.

1	2	3	4	5	6	7	8
167447	30-05-86	BRITISH-AMERICAN TOBACCO COMPANY LTD.	A method and an apparatus for producing particulate tobacco with reduced moisture content.	27-10-90	3/10.	61K & 42D-Group-VIII & XVI.	FC.
167541	30-05-86	BRITISH-AMERICAN TOBACCO COMPANY LIMITED.	A method and apparatus for preparing an expanded tobacco from particulate tobacco.	10-11-90	3/10.	61K & 42D-Group-VIII, & XVI.	FC.
167694	29-07-87	THE BABCOCK & WILCOX COMPANY.	Supervisory control of continuous drying.	08-12-90	21/00.	61-H.	FC.

## F 27 : FURNACES; KILNS; OVENS; RETORTS

## F 27 B : Furnaces kilns, ovens, or retorts in general; Open sintering or like apparatus

165814	12-03-82	KORTEC AG.	Improved method of producing steel in an open-hearth furnace and an improved open-hearth furnace for carrying out the method.	20-01-90	3/02.	108-C <sub>4</sub>	FC.
165912	05-05-86	PAUL WURTH S.A.	Apparatus for charging a shaft furnaces.	10-02-90	1/20.	85-R.	FC.
166179	23-10-82	ALUMINIUM PECHINEY.	An improved process for baking carbon anodes intended for the production of aluminium by fused electrolysis.	24-03-90	17/00.	70-B.	FC.
166331	28-05-85	A. AHLSTROM CORPORATION.	A fluidized bed reactor.	14-04-90	15/16, 15/18.	85-J, K.	FC.
166780	08-08-86	NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS.	A rotary grate for use in a vertical shaft kiln.	14-07-90	1/00.	85-H	IC.
166844	26-03-87	KAWASAKI JUKO-GYO KABUSHIKI KAISHA.	Plant for manufacturing cement clinker.	28-07-90	15/00	35-B.	FC.
167012	08-08-86	NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS.	A vertical shaft kiln.	18-08-90	1/00.	85-H.	IC.
167088	13-01-86	FIVES-CAIL BABCOCK.	Method and installation for the manufacture of clinker.	25-08-90	7/00	85-Q-Group-XXXI	FC.
167089	26-02-86	BRITISH STEEL PLC.	A method of iron making by means of a melting shaft furnace.	25-08-90	1/00.	108-B 2b XXXIII (5).	FC.
167251	30-04-86	THE INTERNATIONAL METALS RECLAMATION COMPANY, INC.	A rotary hearth employable in a rotary hearth furnace.	29-09-90	3/06	85-Q-Group-XXXI.	FC.
167432	17-04-86	F.L. SMIDTH & CO. A/S.	Apparatus for producing clinker such as cement clinker.	27-10-90	7/20	85-H-Group-XXXI.	FC.
167584	08-08-86	NATIONAL COUNCIL FOR CEMENT AND BUILDING MATERIALS.	A control system for a vertical shaft kiln.	17-11-90	1/26.	85-R.	IC.

1	2	3	4	5	6	7	8
<b>F 27 D : Details or accessories of furnaces, kilns, ovens, or retorts in so far as they are kinds occurring in more than one kind of furnace.</b>							
165964	14-03-83	GREAVES FOSECO LIMITED.	A disposable safety lining for foundry ladle.	17-02-90	1/00.	85-B.	IC.
166772	13-06-86	GIAN PARKASH BHAMBRI.	A rice husk furnace.	14-07-90	1/00. 3/00, 15/00.	85-L.	I.
166890	25-01-90	METALLURGICAL & ENGINEERING CONSULTANTS (INDIA) LTD.	Improved tuyere stock for blast furnace.	04-08-90	7/00.	85-J.	IC.
167117	28-05-86	PAUL WURTH S.A.	Apparatus for charging a shaft furnace.	01-09-90	1/20.	85-R & 108 B1-I.	FC.
167177	27-04-82	ELKEM A/S.	An improved method of producing a molten metal or molten metal alloy.	15-09-90	3/00.	108-B 2(b)- Group-XXXIII (5).	FC.
<b>F 28 : HEAT EXCHANGE IN GENERAL.</b>							
<b>F 28 B : Steam or vapour condensers.</b>							
166006	09-01-87	BHARAT HEAVY ELECTRICALS LIMITED.	Surface-cum-spray condensers for plants.	24-02-90	5/00.	55-B <sub>3</sub>	IC.
<b>F 28 C : Heat-exchange apparatus, not provided for in another subclass, in which the heat-exchange media come into direct contact without chemical interaction.</b>							
166697	15-10-86	BALTIMORE AIR-COIL COMPANY, INC.	A cross flow cooling tower.	30-06-90	1/04.	85-J.	FC.
166803	03-08-87	THERMAX PVT. LTD.	An improved fluidized bed heat exchanger.	21-07-90	3/16.]	98G VII (2) 177A+ DXLV (5). ]	IC.
<b>F 28 D : Heat-exchange apparatus, not provided for in another subclass, in which the heat-exchange media do not come into direct contact, Heat storage plants or apparatus in general.</b>							
166803	03-08-87	THERMAX PVT. LTD.	An improved fluidized bed heat exchanger.	21-07-90	13/00.	98G VII (2) 177A +D XLV (5).	IC.
166939	23-04-86	CHARBONNAGES DE FRANCE (ESTABLISSEMENT PUBLIC).	Fluidised bed heat exchange apparatus.	11-08-90	13/00.	98G-Group- VII (2).	FC.
167046	04-03-86	MCCORD HEAT TRANSFER CORPORATION.	A heat exchanger core construction utilizing a plate member adaptable for producing either a single or double pass flow arrangement.	25-08-90	1/03.	98-E & G- Group-VII (2).	FC.
167055	18-07-84	ESMIL B.V.	An apparatus, in particular a heat exchanger of the continuous type.	25-08-90	13/00.	98-E & G- Group-VII (2).	FC.
167346	16-07-86	CHARBONNAGES DE FRANCE (ESTABLISSEMENT PUBLIC).	Device for the control of heat energy exchanged with a fluidized bed.	13-10-90	13/00.	98E & G- Group-VII(2).	FC.
167508	19-12-85	THE JOHNSON CORPORATION.	A rotary joint for use with a rotary heat exchanger drum.	10-11-90	7/00.	163-D, 175-G.	FC.

1	2	3	4	5	6	7	8
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## F 28 F : Details of heat-exchange or heat-transfer apparatus, of general application.

165805	10-12-85	STEIN INDUSTRIE.	Duct for conveying smoke filled with fine ash particles, and having heat exchangers and protective devices for protecting the heat exchangers.	13-01-90	9/00.	196-G	FC.
166918	18-07-86	WST WARMERS-PSICHERTE CHNOLOGIE SA.	A latent heat energy store.	04-08-90	23/00.	50-D.	FC.
167046	04-03-86	MCCORD HEAT TRANSFER CORPORATION.	A heat exchanger core construction utilizing a plate member adaptable for producing either a single or double pass flow arrangement.	25-08-90	3/08.	98-E & G-Group-VII(2).	F.C.
167508	19-12-85	THE JOHNSON CORPORATION.	A rotary joint for use with a rotary heat exchanger drum.	10-11-90	5/02. 5/00.	163-D, 175-G.	FC.

## F 41 : WEAPONS.

## F 41 C : Hand firearms; Accessories therefor.

166231	25-09-85	STURM RUGER & COMPANY INC.	An improved semi-automatic pistol.	31-03-90	15/00.	169-B <sub>1</sub>	FC.
166232	25-09-85	STURM RUGER & COMPANY INC.	A pistol with a novel magazine latch operating arrangement.	31-03-90	25/00.	169-B <sub>1</sub>	FC.
166233	25-09-85	STURM RUGER & COMPANY, INC.	An improved semi-automatic pistol.	31-03-90	17/04.	169-B <sub>1</sub>	FC.
166234	25-09-85	STURM RUGER & COMPANY, INC.	An improved handgun.	31-03-90	19/00.	169-B <sub>1</sub>	FC.
166235	25-09-85	STURM RUGER & COMPANY, INC.	A handgun having a novel handle.	31-03-90	23/00.	169-B <sub>1</sub>	FC.

## F 41 D : Automatic guns, e.g. machine guns

167030	06-03-87	WERKZEUGMASCHINENFABRIK OERLIKONBUHRLE AG.	An ammunition feed on a automatic firearm.	18-08-90	10/12 10/34.	10-C.	FC.
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## F 41 F : Ordnance; Guns; Mountings or carriages; therefor; Missile launchers; Recoilless guns; Harpoon guns

167214	01-04-86	SCHLUMBERGER ELECTRONICS (UK) LIMITED.	A weapons training simulator for providing a simulation of use of a weapon.	22-09-90	27/00.	169-A-Group-XXXIX(6).	FC.
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## F 41 G : Weapon sights; Aiming

165837	05-11-85	THE SECRETARY OF STATE FOR DEFENCE IN HER BRITANNIC MAJESTY'S GOVERNMENT OF THE UNITED KINGDOM OF GREAT BRITAIN.	Alignment device for use with a muzzle reference system for a mounted gun.	20-01-90	1/38.	169-C	FC.
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1	2	3	4	5	6	7	8
<b>F 41 J : Targets; Target ranges; Bullet catchers</b>							
167518	03-04-87	AKTIEBOLAGET BOFORS.	A submunition which is to be separated from an aeronautical body over a target area.	10-11-90	5/00.	10-F.	FC.
<b>F 42 : AMMUNITION; BLASTING</b>							
<b>F 42 B : Explosive charges; Ammunition; Missiles; Fireworks</b>							
166351	21-10-78	FORENADE FABRIKSVENKEN.	An apparatus and a wire guide torpedo assembly.	14-04-90	17/00.	72C & 10F.	FC.
167008	18-06-86	ROYAL ORDNANCE PLC.	Armour penetrating composite projectile.	18-08-90	31/00. 9/00.	10-F.	FC.
157124	27-05-86	SOCIETE NATIONALES POUDES ET EXPLOSIFS.	Pyrotechnic igniter for shells.	18-08-90	1/00.	10-B.	FC.
167362	09-02-88	SOCIETE FRANCAISE DE MUNITIONS.	Penetrating projectile with hard core and ductile guide and method of making it.	13-10-90	13/00.	10-F.	FC.
167544	17-06-86	DYNAMIT MOBEL AG.	A device for use in the process for producing explosive or detonating cords.	10-11-90	33/00.	10B-Group-XXXIX (2).	FC.
167667	13-10-86	ROYAL ORDNANCE PLC.	An explosive device for linear cutting or demolition purposes.	01-12-90	1/02. 3/00.	10-B-XXXIX (2).	FC.
167867	25-09-87	FABRIQUE NATIONALE HERSTAL.	Telescopic grenade.	29-12-90	3/00.	10-F.	FC.

Note : Classified list of the Complete specification under other "SECTION" will be published in due course.

#### REGISTRATION OF DESIGNS

The following designs have been registered. They are not open to inspection for a period of two years from the date of registration except as provided for in Section 50 of the Designs Act, 1911.

The date shown in the each entries is the date of the registration of the design included in the entry.

Class 1. No. 164132. Comalco Aluminium Ltd. of 55, Collins Street, Melbourne, Victoria 3000, Australia. "Ingot Casting", August 28, 1991.

Class 1. No. 164195. Stone India Ltd. of 16, Taratalla Road, Calcutta-700088, W.B., -India, Indian Company. "Fan", March 27, 1992.

Class 3. Nos. 164187 & 164188. Shingar Cosmetics Pvt. Ltd. of Amrapali Shopping Centre, V. Mehta Road, Juhu Scheme, Bombay-400049, Maharashtra, India. "Bottle", March 26, 1992.

Class 3. No. 164196. Stone India Ltd. of 16, Taratalla Road, Calcutta-700088, W.B., -India, Indian Company. "Fan", March 27, 1992.

Class 3. No. 164197. Phenoweld Polymer Pvt. Ltd. of Saki Vihar, Lake Road, Bombay-400072, Maharashtra, India, Indian Company. "Knob for cistern", March 27, 1992.

Class 3. No. 164221. Smt. Madhu, 27, Pusa Road, New Delhi-110005, India, Indian. "Basket", April 2, 1992.

Class 3. No. 164302. B. R. Plastics, 314, A to Z Industrial Estate, 3rd floor, G. Kadam Marg, Bombay-400013, Maharashtra, India, Indian Partnership Firm. "Comb", April 28, 1992.

Class 13. No. 164224. Smt. Madhu, 27, Pusa Road, New Delhi-110005, India, Indian. "Tissue Box", April 2, 1992.

Copyright extended for the 2nd period of five years. Nos. 157711 to 157720, 158946 to 158948,....Class 3. 157721.

Copyright extended for the 3rd period of five years. Nos. 158946 to 158948,....Class 3.

R. A. ACHARYA  
Controller General of Patents, Designs  
and Trade Marks